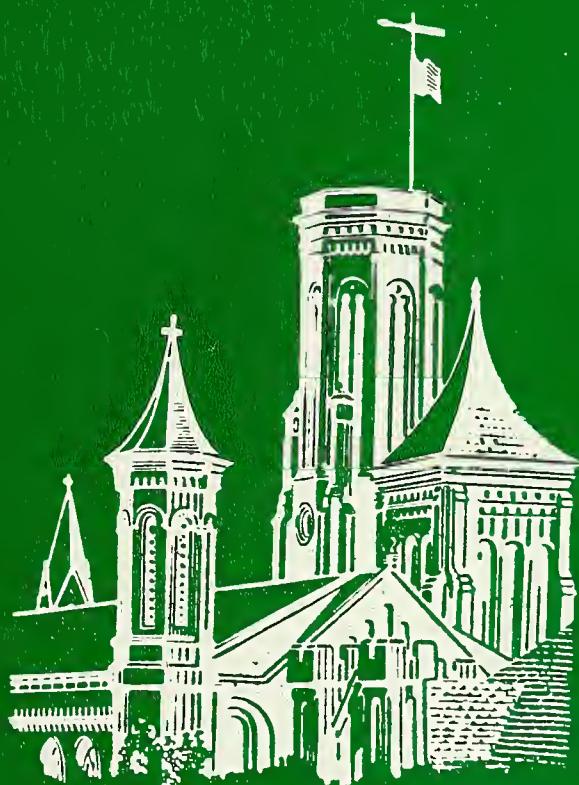


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SMITHSONIAN INSTITUTION

FIVE-YEAR PROSPECTUS
FY 1988 - FY 1992



FEBRUARY 20, 1987

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By means of a ballot mailed to the Regents on January 28, 1987, it
was

VOTED that, subject to final consideration
by the Executive Committee, the Board of
Regents approves the Five-Year Prospectus,
Fiscal Years 1988-1992, anticipating that
annual revisions will similarly be presented
for its approval.

The Prospectus was distributed to the Executive Committee
February 27, 1987, and approved on March 10, 1987.



Rita Blasen
Secretary

SMITHSONIAN INSTITUTION
FIVE-YEAR PROSPECTUS
FY 1988 - 1992
INTRODUCTION

James Smithson bequeathed the whole of his property "to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men." In so doing, he created a charitable trust, through the terms of which the United States would serve as trustee for purposes directed toward the benefit of all mankind. By the Act of July 1, 1836, Congress accepted Smithson's bequest, and pledged the "faith of the United States" to carry out its purposes. In the Act of August 10, 1846, Congress established the Institution in its present form and placed responsibility for management with a Board of Regents.

The Smithsonian is a unique establishment which is both publicly supported and privately endowed, and whose management is vested in an independent board composed of federal officials, Members of Congress, and private citizens. This arrangement has made possible the remarkable growth and achievements of the Institution during the one hundred forty years of its existence. Donations from both the public and private sector have increased its collections and continuing additions to its trust funds have expanded and nourished the Institution's usefulness. Appropriations recommended by successive Administrations and approved by successive Congresses have provided steadily increasing federal support for many of the Smithsonian's far-reaching services to the public. Through the development of the Smithsonian Associates programs, the Institution now has a nationwide group of interested supporters who sponsor many of its educational activities across the country. Annually thousands of service hours are provided to the Institution by dedicated volunteers.

The Smithsonian Institution's programs are devoted to public education, research, and service in the arts, sciences, and history. Centered on the Mall in Washington, D.C., the Institution also operates major facilities and activities elsewhere in Washington, across the country, and overseas. It is one of the world's leading research centers and encompasses the world's largest museum complex. Smithsonian collections contain more than 100,000,000 art objects, natural history specimens, and artifacts. The collections are displayed for the enjoyment and education of visitors and are utilized for research by staff of the Institution and by hundreds of visiting students, scientists, and historians each year. The research, management, care, exhibition, and security of its collections and a program of selective acquisition for the collections are basic institutional commitments; the natural areas for which the Institution holds a trust responsibility serve as important assets for future generations.

In addition to museum curation and exhibition, the Smithsonian conducts a wide range of other programs in order to carry out its broad goal of increasing and diffusing knowledge about humans, their culture, and their environment. Some of these are joint ventures in cooperation with other institutions, universities, and government agencies in the United States and

on virtually every continent. It manages a research station and nature preserve in Panama for the international scientific community; it conducts basic research on the propagation of endangered species; and it delves into the complexities of the universe through its astrophysical research programs. As an outgrowth of institutional research, fundamental data are assembled for use by planners and research workers in other organizations, both government and private, and national and international in scope. Historical research, which enhances knowledge of this nation's growth through studies of technological development, art, and folklife and folklore traditions, is also a major endeavor.

The results of the Institution's research are disseminated to a wide audience through books, monographs, articles in professional journals, exhibit catalogues, and education pamphlets. Public-oriented programs other than exhibits include performances, radio, television, films, Smithsonian Magazine, Air and Space Magazine, and other publications. In addition to the approximately 26,000,000 visitors annually to the Institution's museums, galleries, and zoological park, many millions more view Smithsonian traveling exhibitions, which appear throughout the United States and abroad, and the Institution's annual folklife festival.

In the fall of 1977, the Regents and the Secretary established a five-year forward planning process covering all activities of the Institution. This process has proven to be a useful mechanism for management to examine development alternatives and to communicate important results and information to the Office of Management and Budget, Congressional authorizing and appropriations committees, and to other interested constituents. The Five-Year Prospectus, FY 1988-FY 1992 is the ninth in a series of documents resulting from that action. The Prospectus should be read in conjunction with another publication, Yesterday and Today, which is updated every year and provides background information on the programs of the Institution.

The content of the Prospectus is arranged by the major organization grouping of the Institution and corresponds to the assembly of the FY 1988 budget presented to Congress; i.e., Research, Museums, Public Service, and International Activities, with separate sections treating Special Programs, Associate Programs, Business Management Activities, and Administrative and Facilities plans. Detailed operating projections and brief descriptions for the bureaus and offices appear in Appendix I. Several items discussed in the text, along with the financial figures for FY 1988, complement the Institution's budget submission to the Office of Management and Budget, and also appear in that document.

The Prospectus reflects needs and opportunities that the Smithsonian has described before. It emphasizes selected aspects of the Institution's work while assuring that others will continue at approximately the present level of activity. Areas of emphasis include research and replacement of research equipment, security of collections and other property, automation of records and systems, and the maintenance of current facilities. Also, activities in celebration of the Bicentennial of the Constitution and the Columbian Quincentennial are incorporated. The Museum Support Center at Suitland continues to need appropriate operating and equipment purchase resources for the activities to be housed there. The Institution will

partially support and develop with federal appropriations a project directed at improving the quality of science education in the nation's elementary and secondary schools through development of concepts and materials for better teaching. This is a joint project involving the Smithsonian and the National Academy of Sciences. Renewed emphasis is being placed on various aspects of research, especially tropical biology and forest ecology, systematics, equipment and instrumentation. Facilities development plans beyond the successful establishment of the Quadrangle include additional work at the Zoological Park at Rock Creek and continued development of the conservation and research center at Front Royal, progress with regard to selected science facilities, storage and exhibit facilities for the Air and Space Museum, design and planning for the renovation of the General Post Office Building, and a new Administrative Service Center. Construction and facilities restoration and renovation work is described in the Facilities Planning chapter, but detailed phasing and cost projections are not presented.

Through its trust operations, the Institution will continue to concentrate on ways to develop quality educational products for the visiting public and Associate programs, sustain growth in endowment reserves and supplement important programs such as collections acquisitions, special exhibitions, fellowships, selected research investigations, conferences, and symposia of timely importance. Trust funds, gifts, fund raising programs, and other arrangements are projected to help defray costs associated with selected plant or facility projects such as public restaurants, museum shops, and research and exhibition areas.

Although present trust revenues are encouraging, the Institution's management feels only guardedly optimistic about any five-year projection of such income. Further reduction to federal resources, if severe enough, could also affect trust income levels, and the level of public accessibility to the Institution's products or services such as those performed by the National and Resident Associates.

Within the framework of financial and budgetary uncertainties, the Institution plans to pursue the following general objectives over the next five years.

Objectives

Principal Funding
Source(s)

Operations

1. Maintain the level of technical assistance, equipment, and program funds which support collections-related and other original research by the Institution's professional staff. Priority is placed on stimulating innovative approaches for collaborative research with other countries and organizations, and on improving research through competition, outside peer evaluation,

Federal appropriations and nonappropriated unrestricted trust funds

and fellowship programs for senior and aspiring junior scholars.

2. Enhance the Institution's activities in national and international cultural, biological, and physical science research, and in humanities and arts scholarship. Emphasis will be placed on improving noncollection-based research studies through new instrumentation techniques and technology.	Federal appropriations
3. Open and operate the Quadrangle; establish international exhibit, research, collections, and education programs.	Federal appropriations, nonappropriated unrestricted trust funds, and private donations
4. Complete the first phase of equipping the Museum Support Center, and establish as an integral part of operations a collection conservation and conservation training program.	Federal appropriations and nonappropriated unrestricted trust funds
5. Strengthen museum operations in the documentation and care of the collections; in development of new analytical programs, and automated security and information retrieval systems; and in conservation programs. Increased attention in various operations will be given to safety programs affecting visitors, employees, the collections, and facilities.	Federal appropriations
6. Continue to produce exhibitions using contemporary techniques to communicate to the Institution's audiences information about recent discoveries, new technologies, and new results of scholarship in science, history and art.	Federal appropriations and nonappropriated unrestricted trust funds
7. Continue to offer the nation outstanding magazines and other quality publications; utilize the latest technologies and methods to provide radio programs, recordings, and television and film presentations.	Nonappropriated unrestricted trust funds

8. Strengthen the National Collections for research and exhibitions through the acquisition of important objects and specimens.

9. Maintain administrative, financial, and other support services to meet current and anticipated program needs. Areas of special emphasis include safety, personnel, facilities and financial management systems to meet the total requirements of the Institution, and computer and automation services for improved documentation and control of the collections. Strengthening of equal employment opportunities, and activities aimed at attracting and involving a more racially and culturally diverse audience will continue to receive attention over the planning period.

Federal appropriations, nonappropriated unrestricted trust funds, and private donations

Federal appropriations and nonappropriated unrestricted trust funds

Facilities

1. Open and equip the Quadrangle to accommodate the activities of the Arthur M. Sackler Gallery, the National Museum of African Art, and the International Center.
2. Keep Smithsonian buildings in safe and functional condition with special emphasis on the provision of fire detection, containment, and suppression systems; access by handicapped persons; building exteriors, and energy conservation.
3. Continue internal planning for new and renovated facilities at the Smithsonian's Washington, D.C. and field locations for purposes of facilitating research and educational programs. Special facilities projects include those for the Tropical Research Institute in Panama; the Fred L. Whipple Observatory in Arizona; the Air and Space Museum at Washington/Dulles International Airport; design plans for the General Post Office Building; and a new Administrative Service Center.

Federal appropriations, nonappropriated unrestricted funds, and private donations

Federal appropriations

Federal appropriations, private donations, and other fund raising efforts

4. Continue phased development and planning of animal and public facilities at the Zoological Park in Rock Creek Valley, and improving the research, conservation, and visitor education facilities at the Zoo's Conservation and Research Center at Front Royal, Virginia. Federal appropriations

Within the general objectives outlined above, the Institution will be addressing a few specific issues and establishing a few new patterns of activity and associated resources. Briefly summarized, chief among these are:

- Emphasizing within resources available special lines of investigation in some scholarly programs involving examination of global biodiversity, reemphasis on the conduct of systematics, and modernization of equipment and instrumentation, including fabrication of new astronomical instruments.
- Strengthening ties with other academic and museum enterprises, domestic and foreign, in research and other activities of common interest.
- Strengthening our buildings renovation and restoration activities, and programs affecting public and staff safety, access, and use of the buildings, with emphasis on the identification and correction of potentially hazardous conditions including the handling and removal of materials.
- Incorporating the latest technologies and methodologies in collections management, conservation, and preservation programs.
- Making our overall exhibition programs more effective in terms of content and more efficient in the use of resources.
- Increasing the diversity of various adult and juvenile audiences through better exhibitions, publications, and other educational and public service activities.
- Carrying through in a successful fashion with various special exhibitions, conferences, publications and other events related to the Columbus Quincentenary.
- Increasing future revenues for program support through more diverse and aggressive fund raising, auxiliary, and business management activities.
- Developing and implementing accounting, payroll, and other financial planning and management information systems for improved application and control of available resources.

For the most part, the effects of inflation cannot be incorporated realistically into the Institution's resource forecasts for bureau and program operations. Summary Table 1, however, attempts to show the general

levels of resources that would materialize assuming legislated pay changes are forthcoming in the range of three percent per year, federal nonpersonnel resources are appropriated based on price changes for future years as derived from indices supplied by the Office of Management and Budget, and that federal program growth in the range of 2% to 3% is allowed. Similar patterns are incorporated for trust projections. By FY 1992, resources from all sources required for various operations would increase from FY 1986 levels of approximately \$359,000,000 to about \$545,000,000.

Exclusive of legislated pay increases, federal operating costs are projected to increase approximately \$83,000,000. Significant additions are forecast for such items as basic and interpretive research utilizing the collections and scientific and cultural information, improvements to automated collections and management systems, improvements to technical and program support, physical plant operations, maintenance and repair, safety programs, security, and instrumentation and equipment replacement.

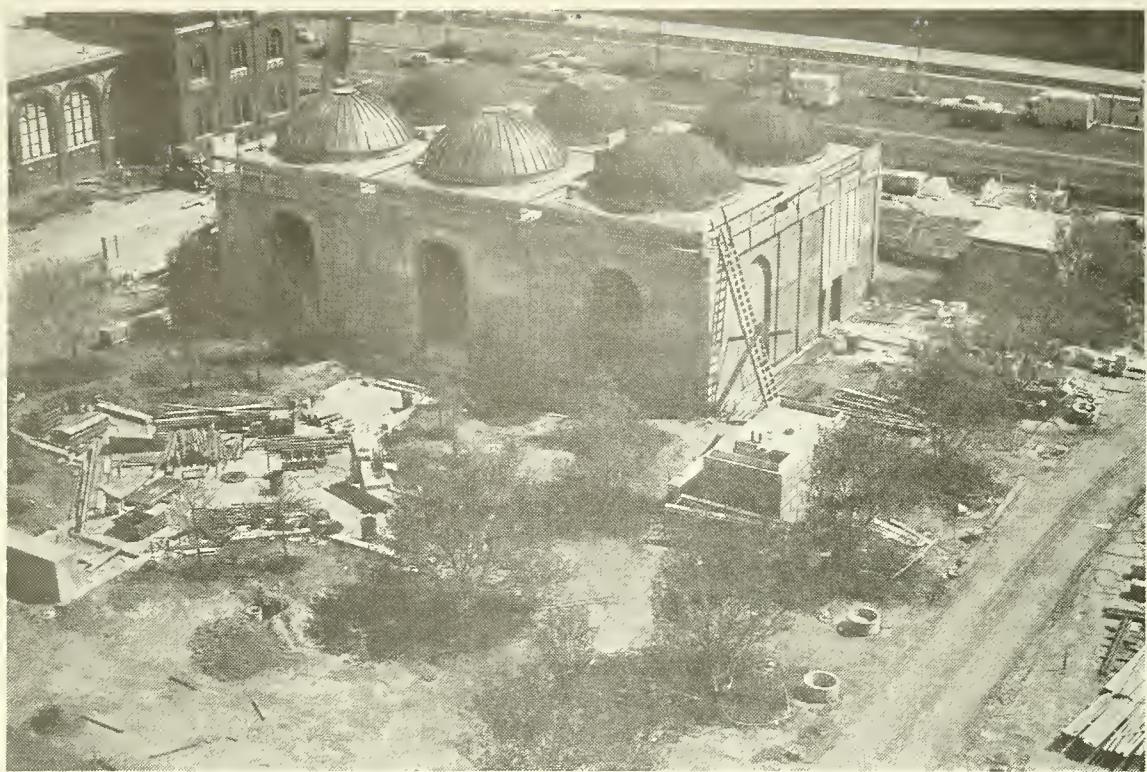
Operations supported with nonappropriated trust funds and federal grants and contracts are expected to increase by approximately \$81,000,000. These increases involve primarily the revenue producing activities, including the Magazine, the Smithsonian Press, Museum Shops and Mail Order Division, and the National Associates program. Detailed forecasting of federal grant and contract activities is difficult to achieve, but the Institution expects continued support for various operations in future years. Finally, operations funded by restricted trust fund resources are expected to remain approximately stable, largely reflecting a conservative outlook for gift and grant support in future years. This forecast may change over the fiscal year.

The trust fund forecasts assume the Institution will make measured progress in increasing its capital reserves (endowments), thus approximately \$3,000,000 to \$5,000,000 a year are incorporated into the projections for this purpose. In addition, trust support for fellowships, special exhibitions, collection acquisitions, research, and other educational activities is projected to increase in future years if economic conditions permit, and if the Institution's auxiliary and revenue-producing activities continue to perform in a satisfactory fashion.

Notes on Financial Projections

The tables are designed to show trends in the Institution's future year resources patterns, and to reflect the changes and growth contained in the narrative portions of this report. The FY 1986 figures are end-of-year expenditures and income. FY 1987 figures are those approved by Congress, incorporating the Board of Regents' authorization to expend the FY 1987 appropriation, and the Board of Regents' approval of the nonappropriated trust fund portion of the FY 1987 budget.

The FY 1988 federal figures are those contained in the President's budget submitted to Congress in January 1987. The FY 1988 figures resulted from the Institution's planning and budget reviews that took place during the spring and summer months of 1986, and included deliberations with the directors of bureaus and offices. Projections for years FY 1989-1992 were derived from basic materials prepared by the organizations and bureaus of



Quadrangle construction nears completion. Upper photo shows African pavilion copper roofing and skylight, with fountain construction in the foreground. Lower photo shows granite installation on Sackler pavilion north facade and completion of copper roofing. Photo by Frank Gilmore.

the Institution and then reviewed by the appropriate members of the Secretary's Management Committee.

Trust fund projections, as mentioned earlier, are vulnerable to fluctuations in the nation's economic climate. They are presented to help explain the expected use of these funds. Trust funds are composed of restricted and unrestricted funds. Unrestricted trust funds (general and special purpose) originate from a variety of sources including income from endowments and current fund investments; food service concessions; sales of Smithsonian products based on designs and objects in the collections; the Resident and National Associate Programs (including Smithsonian magazine); and a publication program. In addition, certain bureaus have their own income-producing activities. Restricted trust funds include gifts, grants, endowment, and other income designated for specific projects and purposes by the donor. The Freer fund, the largest example in this category, is strictly controlled under the terms of the original bequest for the sole use of the Gallery.

There are three major purposes to which the unrestricted trust funds are applied. First, the operating expenses of the Associate Programs and revenue-producing activities, such as magazines and the museum shops, are totally funded from the earned income of these activities. Second, central management and administrative service units of the Institution, such as legal counsel, accounting, personnel, supply, and others, receive trust fund allotments funded largely from the overhead recovery on grants and contracts administered by the Smithsonian and from administrative fees charged to trust-funded activities. General operating funds are also provided to various units for research and other specific purposes. Third, a variety of allocations for important institutional and bureau needs are made with the approval of the Board of Regents, such as the Collections Acquisitions, Scholarly Studies, and Education programs, and the Institution's fellowship programs.

After the three major categories of operating expense financed with unrestricted trust funds are met, the remaining unrestricted income is designated for three purposes. Funds are transferred to the museums and galleries in recognition of their assistance in the planning and conduct of museum shop, product development, and concession programs. These funds are used for the general operations of the recipient bureaus. A second designation is for improvements to the physical plant or land acquisitions. Finally, funds permitting, the Institution makes an annual transfer to its endowment for the purpose of providing income for rising costs in future years.

The other source of nonappropriated funding, federal grants and contracts, is made available to the Smithsonian by governmental agencies and departments to support specific types of research, educational, or other projects which the Smithsonian can undertake as a result of its expertise or its ability to respond quickly to certain kinds of needs.

Tables 1 and 2. Table 1 contains general levels of dollar resources (or revenues) from various sources which the Institution projects will be necessary for the conduct of its operations. In a summary fashion, it incorporates estimates for inflation and pay increases associated with



Center for Asian Art designers and Director Thomas Lawton discuss the Sackler bronzes which will be included in the opening exhibition of the Sackler Gallery. The cardboard horse represents a large ceramic sculpture that will be used in the Sackler entrance pavilion. Photo by Kim Nielsen.

federal and trust operations of the Institution. Table 2 projects expenses by areas of operation (Research, Museums, Public Service, etc.) along with the application of trust funds to such items as plant improvements; endowments; and special activities such as the Collection Acquisition, Scholarly Studies, and Education Programs.

Table 3. Projects associated with programs and operating activities of units being located in the Quadrangle, along with some expected maintenance and support costs, are consolidated in Table 3 to provide an overview of the organizational resources involved in that new facility.

Appendix I, Tables 4 through 11. These contain detailed expense projections for the Institution's museums, galleries, laboratories and other programs. For ease of presentation, expenses associated with the various administrative, financial, and support organizations of the Institution are grouped into three categories in Table 11: (1) Central Management Offices, (2) Specialized Administrative and Technical Offices, and (3) Facilities Offices.

SMITHSONIAN INSTITUTION
SOURCE OF OPERATING FUNDS
FY 1986 PROJECTED THROUGH FY 1992

(\$000)

Table 1

SOURCE OF OPERATING FUNDS	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
Federal Salaries and Expenses	169,384	183,920	204,862	228,691	238,425	247,925	252,558
Plus cumulative affect of legislated pay changes	—	—	2,300	6,900	11,600	16,300	21,100
Subtotal	169,384	183,920	207,162	235,591	250,025	264,225	273,658
Nonappropriated Trust Funds							
Unrestricted General							
Investments	4,617	5,095	4,500	4,525	4,550	4,575	4,600
Gifts	42	50	50	50	50	50	50
Auxiliary Activities	146,364	158,460	170,865	183,125	195,510	207,960	221,855
Miscellaneous	162	80	110	50	50	50	50
Subtotal	151,185	163,685	175,525	187,750	200,160	212,635	226,555
Unrestricted Special Purpose							
Investments	856	793	834	855	855	855	855
Gifts	294	201	211	225	225	225	225
Bureau Activities	6,802	8,115	8,165	8,520	8,825	9,225	9,620
Miscellaneous	2,011	1,934	1,899	1,920	1,920	1,920	1,920
Subtotal	9,963	11,043	11,109	11,520	11,825	12,225	12,620
Restricted							
Investments	4,046	4,536	4,726	4,764	4,838	4,965	5,100
Gifts, Grants and Contracts	6,318	11,004	11,564	6,811	6,922	7,000	7,100
Miscellaneous	2,950	2,126	1,964	2,000	2,000	2,000	2,000
Subtotal	13,314	17,666	18,254	13,575	13,760	13,965	14,200
Federal Grants and Contracts	15,534	17,935	15,254	20,534	20,749	19,585	17,558
Gross Income	359,380	394,249	427,304	468,970	496,519	522,635	544,591
Less Expenses of Auxiliary and Bureau Activities	(131,571)	(143,427)	(152,747)	(165,072)	(176,088)	(186,978)	(198,895)
Net Funds Provided	227,809	250,822	274,557	303,898	320,431	335,657	345,696

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 PROJECTED THROUGH FY 1992

(\$000)

Table 2 (1)

APPLICATION OF OPERATING FUNDS	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
Research							
•Federal Salaries and Expenses	32,112	33,836	37,361	40,580	41,888	44,003	45,198
•Unrestricted General							
-Program and Administrative*	895	1,213	1,154	1,200	1,107	1,149	1,190
-Auxiliary Activities	—	—	—	—	—	—	—
•Unrestricted Special Purpose							
-Bureau Activities	1,178	1,091	1,027	973	988	998	1,008
-All Other	1,519	1,066	982	1,021	1,061	1,101	1,146
•Restricted	1,217	2,215	1,672	2,164	2,264	2,285	2,300
•Federal Grants and Contracts	14,065	15,902	12,677	18,398	18,570	17,347	15,258
Subtotal	50,986	55,323	54,873	64,336	65,878	66,883	66,101
Museums							
•Federal Salaries and Expenses	65,492	71,164	75,548	81,553	82,520	82,573	82,853
•Unrestricted General							
-Program and Administrative	7,121	2,155	1,903	1,968	2,041	2,112	2,188
-Auxiliary Activities	2,061	—	—	—	—	—	—
•Unrestricted Special Purpose							
-Bureau Activities	2,556	4,416	4,646	4,948	5,124	5,492	5,760
-All Other	8,144	4,550	3,264	3,555	3,520	3,540	3,616
•Restricted	8,381	10,934	10,370	8,624	8,347	8,545	8,731
•Federal Grants and Contracts	1,606	1,364	1,379	1,465	1,488	1,526	1,566
Subtotal	95,361	94,583	97,110	102,113	103,040	103,788	104,714
Public Service							
•Federal Salaries and Expenses	2,229	2,413	2,502	2,502	2,502	2,502	2,502
•Unrestricted General							
-Program and Administrative	1,818	2,216	2,115	2,211	2,313	2,418	2,528
-Auxiliary Activities	13,155	13,390	14,580	15,880	16,920	17,670	18,660
•Unrestricted Special Purpose							
-Bureau Activities	2	72	83	100	112	125	139
-All Other	142	13	111	161	161	211	211
•Restricted	31	—	—	—	—	—	—
•Federal Grants and Contracts	12	—	—	—	—	—	—
Subtotal	17,389	18,104	19,391	20,854	22,008	22,926	24,240

* Net of SAO Overhead Recovery

**SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 PROJECTED THROUGH FY 1992**

[\$000]

Table 2 (2)

APPLICATION OF OPERATING FUNDS	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
Directorate, International Activities							
• Federal Salaries and Expenses	508	625	908	908	1,908	1,908	1,908
• Unrestricted General							
- Program and Administrative	558	789	742	713	644	666	690
- Auxiliary Activities	—	—	—	—	—	—	—
• Unrestricted Special Purpose							
- Bureau Activities	—	—	—	—	—	—	—
- All Other	33	150	175	175	190	220	220
• Restricted	288	251	369	454	500	500	500
• Federal Grants and Contracts	—	—	—	—	—	—	—
 Subtotal	 1,387	 1,815	 2,194	 2,250	 3,242	 3,294	 3,318
 Special Programs							
• Federal Salaries and Expenses	8,978	6,723	7,002	10,714	9,694	9,815	5,689
• Unrestricted General							
- Program and Administrative	997	1,089	1,137	1,179	1,223	1,253	1,315
- Auxiliary Activities	—	—	—	—	—	—	—
• Unrestricted Special Purpose							
- Bureau Activities	67	7	7	10	9	10	10
- All Other	1,997	8,562	9,814	10,378	11,328	12,658	13,433
• Restricted	527	506	594	783	782	813	850
• Federal Grants and Contracts	221	669	1,198	670	690	711	732
 Subtotal	 10,787	 17,556	 19,752	 23,734	 23,726	 25,260	 22,029
 Associates Programs							
• Federal Salaries and Expenses	—	—	—	—	—	—	—
• Unrestricted General							
- Program and Administrative	922	1,008	947	987	1,017	1,048	1,080
- Auxiliary Activities	76,890	85,810	91,350	97,800	105,200	112,465	120,120
• Unrestricted Special Purpose							
- Bureau Activities	(427)	13	13	—	—	—	—
- All Other	71	125	47	47	49	51	52
• Restricted	40	68	23	—	—	—	—
• Federal Grants and Contracts	—	—	—	—	—	—	—
 Subtotal	 77,496	 87,024	 92,380	 98,834	 106,266	 113,564	 121,252

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 PROJECTED THROUGH FY 1992

(\$000)

Table 2 (3)

APPLICATION OF OPERATING FUNDS	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
Business Management							
• Federal Salaries and Expenses	—	—	—	—	—	—	—
• Unrestricted General	—	—	—	—	—	—	—
— Program and Administrative	—	—	—	—	—	—	—
— Auxiliary Activities	34,625	37,330	39,775	44,030	46,320	48,720	51,410
• Unrestricted Special Purpose	—	—	—	—	—	—	—
— Bureau Activities	—	—	—	—	—	—	—
— All Other	—	217	228	307	322	338	355
• Restricted	—	—	—	—	—	—	—
• Federal Grants and Contracts	—	—	—	—	—	—	—
 Subtotal	 34,625	 37,547	 40,003	 44,337	 46,642	 49,058	 51,765
 Administrative, Financial and Technical Services							
• Federal Salaries and Expenses	12,592	13,493	15,484	16,612	16,815	16,910	17,001
• Unrestricted General	—	—	—	—	—	—	—
— Program and Administrative*	(1,452)	2,315	2,506	2,166	2,367	2,554	2,771
— Auxiliary Activities	—	—	—	—	—	—	—
• Unrestricted Special Purpose	—	—	—	—	—	—	—
— Bureau Activities	1,265	1,258	1,222	1,271	1,349	1,429	1,514
— All Other	1,298	1,081	424	125	314	14	14
• Restricted	134	153	99	117	117	117	117
• Federal Grants and Contracts	2	—	—	—	—	—	—
 Subtotal	 13,839	 18,300	 19,735	 20,291	 20,962	 21,024	 21,417
 Facilities Services							
• Federal Salaries and Expenses	49,288	55,866	59,185	63,189	65,566	68,112	70,473
• Unrestricted General	—	—	—	—	—	—	—
— Program and Administrative	2,060	1,919	2,011	2,111	2,208	2,310	2,418
— Auxiliary Activities	—	—	—	—	—	—	—
• Unrestricted Special Purpose	—	—	—	—	—	—	—
— Bureau Activities	199	40	44	60	66	69	74
— All Other	(51)	187	195	214	214	214	214
• Restricted	4	7	7	7	7	7	8
• Federal Grants and Contracts	—	—	—	1	1	1	1
 Subtotal	 51,500	 57,819	 61,442	 65,582	 68,062	 70,713	 73,188

* Net of SI Overhead Recovery

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 PROJECTED THROUGH FY 1992

(\$000)

Table 2 (4)

APPLICATION OF OPERATING FUNDS	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
Adjustments for Inflation, Pay Requirements and Grade Reductions							
Federal Salaries and Expenses							
-Necessary Pay							
-Federal Empl. Retirement System	—	—	7,245	8,792	9,291	9,361	9,393
-Grade Reductions	—	—	(373)	(559)	(559)	(559)	(559)
-Inflation	—	—	—	2,300	4,100	5,500	7,200
-Supplemental	—	—	2,300	6,900	11,600	16,300	21,100
Subtotal							
			9,172	19,533	29,132	38,402	48,034
Institutional Total							
Federal Salaries and Expenses	169,199	183,920	207,162	235,591	250,025	264,225	273,658
Unrestricted General							
-Program and Administrative	12,919	12,704	12,515	12,535	12,920	13,510	14,180
-Auxiliary Activities	126,731	136,530	145,705	157,710	168,440	178,855	190,390
Unrestricted Special Purpose							
-Bureau Activities	4,840	6,897	7,042	7,362	7,648	8,123	8,505
-All Other	13,153	15,951	15,240	15,983	17,159	18,347	19,261
Restricted	10,622	14,134	13,134	12,149	12,017	12,267	12,506
Federal Grants and Contracts	15,906	17,935	15,254	20,534	20,749	19,585	17,558
Gross Funds Applied							
	353,370	388,071	416,052	461,864	488,958	514,912	536,058
Less Expenses of Auxiliary and Bureau Activities							
	(131,571)	(143,427)	(152,747)	(165,072)	(176,088)	(186,978)	(198,895)
Net Funds Applied Before Transfers							
Federal Salaries and Expenses	169,199	183,920	207,162	235,591	250,025	264,225	273,658
Unrestricted General							
-Program and Administrative	12,919	12,704	12,515	12,535	12,920	13,510	14,180
-Auxiliary Activities	126,731	136,530	145,705	157,710	168,440	178,855	190,390
Unrestricted Special Purpose							
-Bureau Activities	4,840	6,897	7,042	7,362	7,648	8,123	8,505
-All Other	13,153	15,951	15,240	15,983	17,159	18,347	19,261
Restricted	10,622	14,134	13,134	12,149	12,017	12,267	12,506
Federal Grants and Contracts	15,906	17,935	15,254	20,534	20,749	19,585	17,558
Net Before Transfer							
	221,799	244,644	263,305	296,792	312,870	327,934	337,163

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 PROJECTED THROUGH FY 1992

(\$000)

Table 2 (5)

APPLICATION OF OPERATING FUNDS	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
Transfers: Out/[In]							
•Federal Salaries and Expenses	185	—	—	—	—	—	—
•Current Funds Transfers (Internal)							
- Unrestricted General	11,592	10,251	11,705	12,105	13,400	14,600	15,915
- Unrestricted Special Purpose	(11,626)	(10,452)	(12,067)	(12,705)	(14,000)	(15,200)	(16,265)
- Restricted	34	201	362	600	600	600	350
•Current Funds to Plant Improvement							
- Unrestricted General	37	—	—	—	—	—	—
- Unrestricted Special Purpose	50	—	—	—	—	—	—
- Restricted	—	—	—	—	—	—	—
•Current Funds to Endowment							
- Unrestricted General	3,000	3,000	3,500	4,000	4,500	5,000	5,500
- Unrestricted Special Purpose	2,733	—	—	—	—	—	—
- Restricted	2,314	1,218	979	1,100	1,110	1,120	1,120
Total Transfers	8,319	4,218	4,479	5,100	5,610	6,120	6,620
Net Changes in Fund Balance:							
Increase (Decrease)							
•Unrestricted General	(3,094)	1,200	2,100	1,400	900	670	570
•Unrestricted Special Purpose	813	(1,353)	894	880	1,018	955	1,119
•Restricted	344	2,113	3,779	(274)	33	(22)	224
•Federal Grants and Contracts	(372)	—	—	—	—	—	—
Subtotal	(2,309)	1,960	6,773	2,006	1,951	1,603	1,913
Net Funds Applied							
•Federal Salaries and Expenses	169,384	183,920	207,162	235,591	250,025	264,225	273,658
•Unrestricted General	24,454	27,155	29,820	30,040	31,720	33,780	36,165
•Unrestricted Special Purpose	5,123	4,146	4,067	4,158	4,177	4,102	4,115
•Restricted	13,314	17,686	18,254	13,575	13,760	13,965	14,200
•Federal Grants and Contracts	15,534	17,935	15,254	20,534	20,749	19,585	17,558
Net Funds Applied	227,809	250,822	274,557	303,898	320,431	335,657	345,696

RESEARCH

The research programs of the Institution are carried out by its bureaus and museums. Research is the principal activity of the Astrophysical Observatory (SAO), Tropical Research Institute (STRI), and the Environmental Research Center (SERC) and is an important component in the Museum of Natural History (NMNH), Air and Space Museum (NASM), the Zoological Park (NZP), and the Museum of American History (NMAH), where exhibitions, and collections management also play important roles. The curators in Smithsonian art museums contribute considerable scholarly achievement in association with the curation of collections, preparation of exhibitions, and presentation of education and public programs. In addition to being responsible for research at the Smithsonian Institution, the Office of the Assistant Secretary for Research has oversight over the International Environmental Science Program, the Office of Fellowships and Grants, Smithsonian Institution Libraries, Smithsonian Institution Archives, Joseph Henry Papers, and the Office of American Studies.

The Smithsonian, by virtue of its staff, collections, data bases, and research facilities, is a unique international resource in the basic sciences, arts and the humanities. Complementing industrial, federal, and university research, the Smithsonian's long-term research efforts provide critical continuity to the nation's research enterprise in a number of fields. The Institution's systematists, for example, provide the fundamental building blocks by which research in ecological/ evolutionary sciences may occur. In addition to serving the broad research community, Smithsonian research is the foundation for the Institution's public activities. The accuracy and currency of its exhibitions and the quality of its public education programs depend directly on the research of the staff. Continued support for the Institution's research is required if other elements of the Smithsonian's overall program are to succeed.

Current and Projected Resources

Sources of research support vary markedly from organization to organization. For example, the Marine Station at Link Port, Fort Pierce, Florida, which is administered by the Museum of Natural History, operates solely with restricted trust funds, while the Astrophysical Observatory, because of its unique national and international position as a research leader, has about two-thirds of its dollar and personnel resources associated with federal grants and contracts. The Tropical Research Institute and the Zoological Park, on the other hand, rely extensively on federal appropriations for maintaining their science research programs. Such is the case with many other museums and galleries of the Institution, e.g. the Museum of Natural History, the Air and Space Museum, the Portrait Gallery, the American Art Museum, and the American History Museum, which conduct their basic exhibit, research, collections, and building services activities primarily with federal appropriations.

A breakdown of FY 1986 and projected FY 1992 resources for units reporting to the Assistant Secretary for Research operations (before application of overhead recovery) follows:

<u>Source of Funds</u>	<u>FY 1986</u>		<u>Projected</u> <u>FY 1992</u>	
	<u>Full-time Employment</u>	<u>Funds (\$000s)</u>	<u>FTE</u>	<u>Funds (\$000s)</u>
Federal Salaries & Expenses	690	\$32,112	810	\$45,198
Unrestricted trust	96	6,246	95	5,824
Restricted trust	11	1,217	12	2,300
Federal Grants & Contracts	132	14,065	86	15,259
	—	—	—	—
Total 1/	929	\$53,640	1,003	\$68,581

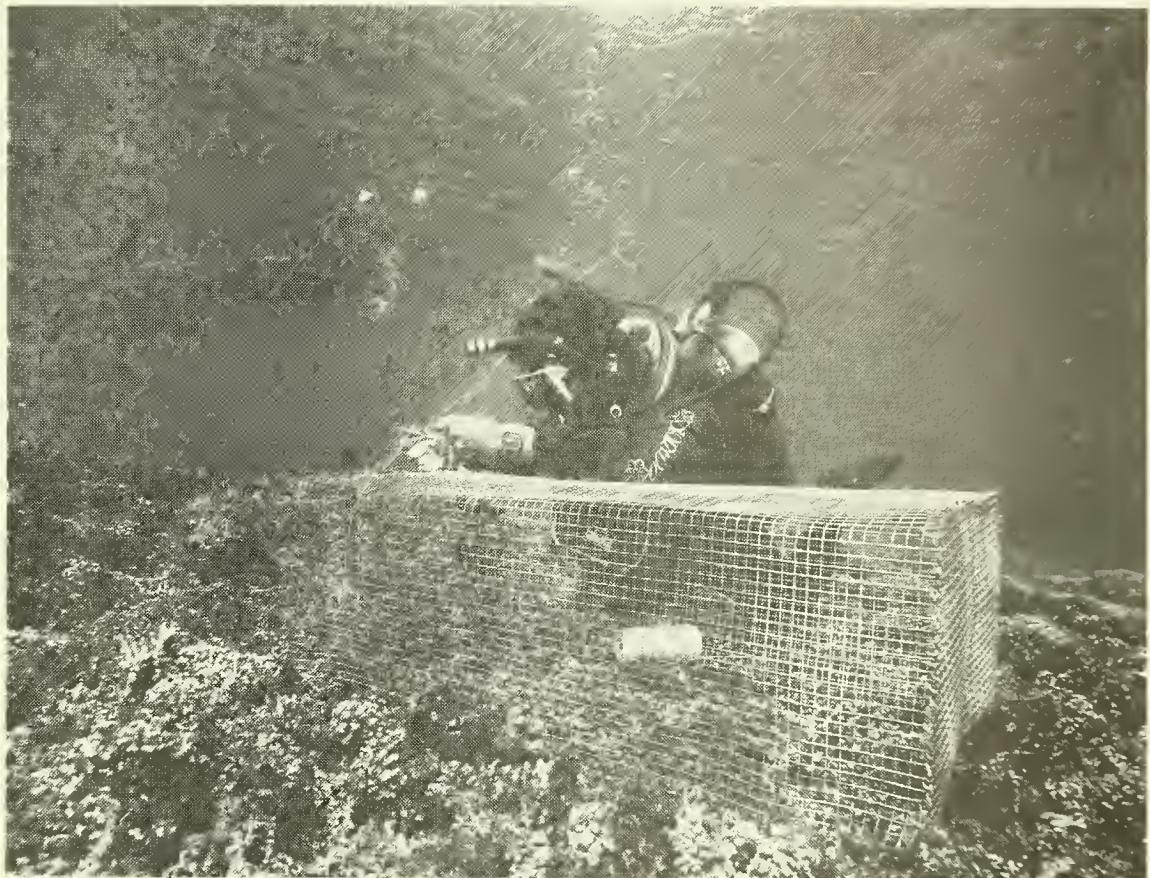
1/ Activities covered in the Special Programs chapter, but managed by the Assistant Secretary for Research (including Fellowships and Grants, American Studies, Scholarly Studies, and International Environmental Research) amount to approximately \$1,000,000 federal appropriations and \$3,000,000 in trust operations and grant and contract activities in FY 1986; these expense figures are not included here, but are contained with the Special Programs chapter or (in the case of Scholarly Studies) are spread throughout the bureau and office figures for FY 1986.

In FY 1986, total resources amounted to approximately \$54,000,000 and 929 full-time employees. Total funding consisted of approximately 60 percent federal appropriations, 26 percent federal grants and contracts, and 14 percent nonappropriated unrestricted and restricted trust funds.

Future Year Prospectus

Because of uncertainties surrounding the future year impact of Public Law 99-177 on the Institution's resource levels, projections of additional federal program increases for these research activities are modest; amounts will also be needed to cover uncontrollable expenses such as necessary pay and inflation.

The necessity to find solutions to emerging budget constraints is great; finding solutions to the many research challenges facing the world, as the Institution moves toward the year 2000, are even greater. Preventing the deterioration of our natural environment with its attendant loss of biological diversity, the search for new food and medicinal resources, and the quest to understand what lies beyond our own planet, are but a few examples. These issues serve as the backdrop for setting Smithsonian research goals in the sciences. The Institution's resources must be marshalled not only to engage in fundamental research in the aforementioned fields, but to inform the public through exhibitions and educational programs of the complexities of these issues. In the arts and humanities, research is aimed at elucidating the aesthetic aspects of



Researcher conducts studies of sea urchins predation in the Gulf of Chiriqui, Pacific coast of Panama, an area which was profoundly affected by the "El Nino" event in 1983.

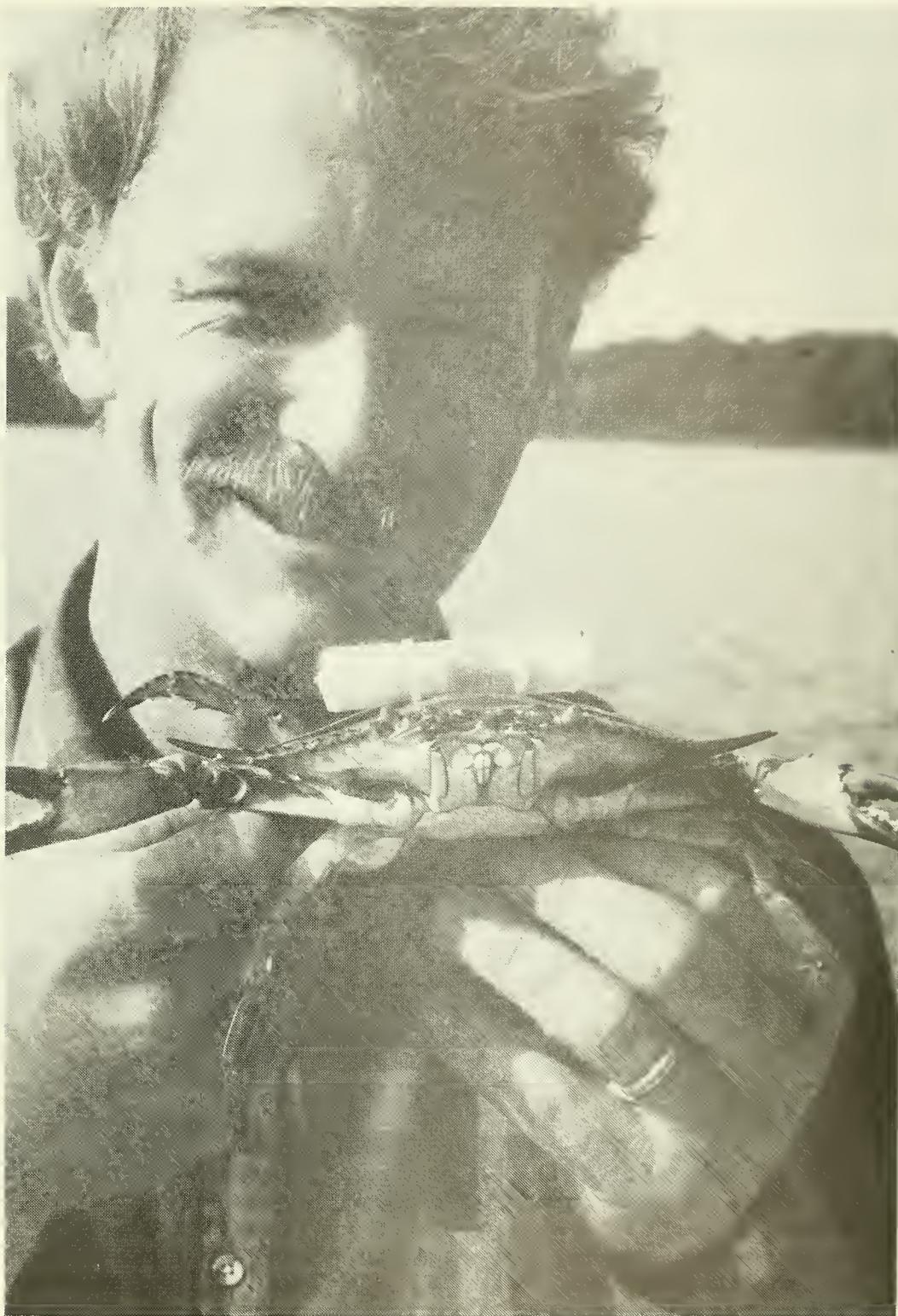
objects, placing objects in a better context of long-term historical and social trends and bridging understanding between distinct cultures.

Within the last several years, considerable attention has been paid by policymakers to the accelerating pace of destruction of tropical forest ecosystems. These areas have been described as the "cradle of life," and serve an important role in preserving the global environmental balance and genetic diversity. New food resources, as well as elements for new medicinal products, are found in these fragile regions. Continued destruction of these areas results in more rapid extinction of species (most are yet undescribed) and may even threaten man's continuing existence. Understanding the workings of the tropics -- what plants and animals are there now, and how they evolved to fill the niches they occupy -- is critical. The Smithsonian, because of its collections, staff and field stations, is well suited to pursue extended research on these tropical problems. Scientists from the Museum of Natural History are initiating in FY 1987 a new multidisciplinary program entitled, "Biological Diversity in South America," through which they plan a comprehensive survey of Amazonian flora and fauna. This effort will have an important training component for both South and North American students. The Tropical Research Institute plans to continue its pioneering studies in tropical biology at the Barro Colorado Island Nature Monument and its two marine research stations in Panama. This bureau also is undertaking a new tropical forest research initiative in FY 1987 and will be enhancing its capabilities in soil ecology and biochemical evolution. The National Zoological Park is strengthening its activities in the tropics, especially in expanding its successful efforts in reintroducing zoo-bred primates to their original habitats in Brazil.

As a result of the Arctic Research and Policy Act of 1984, the Museum will expand its Arctic research in archaeology, anthropology and biology, traditional areas of museum competence which have begun to attract renewed national interest. The Museum of Natural History continues to assess the feasibility of a National Biological Survey for temperate North America; systematic biologists throughout the country would participate in this long-term project.

Research at the Environmental Research Center in Edgewater, Maryland, will be enhanced by the transfer of two projects from the Rockville, Maryland Laboratory, which is being closed in FY 1987. The first is a long-term study on the CO₂ balance in the oak-hickory forest; it will complement a similar long-term analysis of CO₂ levels in the tropical forest in Panama. The second is an indepth study of the dynamics of a saltgrass marsh, the financing of which will be primarily from a Department of Energy (DOE) grant. A long-term program at the Edgewater Center on the nutrient dynamics of the Rhode River will continue with funding from the Chesapeake Research Consortium.

The Zoological Park intends to strengthen its curation and animal care abilities to service the new facilities now under construction at its central Rock Creek, and Front Royal, Virginia, facilities. Scientists at the Zoo have started a new program in the health and genetics of captive animals and have been successful in raising some private funds to finance



A lightweight ultrasonic telemeter attached across the top shell of this Atlantic blue crab enables Dr. Anson Hines of the Smithsonian Environmental Research Center to track its movements after it is released into the Rhode River, a subestuary of the Chesapeake Bay. Photo by Jeff Ploskonka.

their efforts; a national campaign is under way to insure long-term financial stability.

Smithsonian biologists throughout the Institution have started a modest research program in molecular systematics and evolution. Recent technical advances in electrophoresis and chromatography have opened new ways to study the evolutionary process in plants and animals. To take advantage of these new techniques, the Institution has initiated a multi-bureau effort to equip laboratories at the Museum of Natural History, the Tropical Research Institute and the Zoological Park with the necessary equipment to exploit this new approach. Funds remaining from the termination of the Rockville, Maryland laboratory will be redirected to these efforts.

Understanding our universe is the focus of research activities at the Astrophysical Observatory (SAO). A major goal of SAO is to develop an array of submillimeter telescopes that would represent a bold next step in the exploration of space through ground based astronomy. By studying the universe with instruments of high resolving power at submillimeter wavelengths, observations can be made of the birth of stars, research can be furthered on cores of quasars and galaxies, and perhaps other planetary systems can be detected. In cooperation with the University of Arizona, plans are being developed to upgrade the Multiple Mirror Telescope (MMT), now the world's third largest optical instrument, by replacing its current six-mirror configuration with a single large mirror 6.5 meters in diameter. Advanced planning is currently underway. The Air and Space Museum (NASM) will continue to develop its research capabilities in image processing of space borne missions to gain further insights into the mechanisms that form and modify planetary surfaces. The history of space science is being pursued in an active program of oral history and document surveying. These important materials will form the basis for several book length studies on the origin of scientific research in space. A long range program has been started at NASM to store Air and Space archives on laser readable discs. Already some 200,000 airplane photographs have been successfully digitized on such discs and are available to the public and other museums. NASM is a pioneer in the development of this technology.

Research in the art museums continues to produce quality publications in the form of exhibit catalogues and other scholarly works. Greater communication and coordination of efforts among various bureaus (especially in American oriented activity) is an objective. One major step in this direction is the new journal to be undertaken by the Museum of American Art. At the Museum of American History, plans are under way to develop a research center which will consolidate existing programs and develop others. It will be a base to create new relationships with universities and to enhance other academic programs, such as those for fellowships and interns.

The Joseph Henry Papers will continue to publish and disseminate its volumes on the life and contribution of the Institution's first Secretary, Joseph Henry. The Smithsonian Archives needs additional storage space, and as a major source of historical research documents, facilities will need improvement for adequate records maintenance and access. Considerable attention will need to be placed in future years on utilizing modern



Workmen move Hydrolab into the National Museum of Natural History. The 18-foot long, 8-foot high tanklike underwater research habitat is the largest manmade object ever transported to the Museum for an exhibition. It is on long-term loan from the National Oceanic and Atmospheric Administration. Photo by Chip Clark.

technology for storage and retrieval of archival records. The Smithsonian Libraries, another major institutional research support service, requires attention in a number of ways. Most significant is the implementation of a long range plan of book preservation; many portions of the collections are in danger of disintegrating. In addition, automated bibliographic systems need to be more completely developed and integrated into library operations, and increased space for the collections will require greater consideration in the future.

An increasing necessity of modern day research is the regular replacement of equipment and acquisition of new state of the art instruments. Computers and other instrumentation are as vital to today's scholars as the microscope was to 19th century scientists. A major effort must continue for equipment acquisition/replacement funds.

A support base camp at the Whipple Observatory (\$4,500,000) is a critical priority, and is being sought in FY 1988. A request of \$2,800,000 for a new laboratory on Barro Colorado Island for the Tropical Research Institute will be sought in future years. In addition to equipment, planning will continue regarding development of research/support facilities for the Tropical Research Institute (in Panama) and for the Astrophysical Observatory (the Whipple Observatory at Mount Hopkins, Arizona). Planning must continue for the Air and Space Museum storage and exhibit areas at Dulles International Airport. Renovation and new construction for these and other bureaus are needed to strengthen programs and to meet future operational responsibilities. Additional information on facilities requirements is presented in the Facilities chapter.

Detailed projections for bureaus and offices reporting to the Assistant Secretary for Research appear in Appendix I. Overall projections amount to around \$69 million in FY 1992, or about \$15 million above FY 1986 levels with most of the increase associated with federal appropriations for the Astrophysical Observatory, Zoological Park, and Tropical Research Institute. Trust support may increase somewhat over the planning period; grant and contract work is difficult to project because of the uncertainty surrounding future years federal funding of source agencies.



Dr. Donald Ortner and research assistant Janet Beck computerize information gleaned from the study of Natural History's extensive skeletal collection. Dr. Ortner is holding a skull from Gabon, Africa- which shows signs of chronic infection. Photo by Dane Penland.

MUSEUMS

Administrative restructuring occurred at the Smithsonian Institution in FY 1986. It included the establishment of two new positions; the Assistant Secretary for Museums and the Assistant Secretary for Research. These offices supersede and reconfigure the Assistant Secretaries for Science, History and Art, and Museum Programs.

Under the new organization, oversight is based more on programmatic function than on subject matter. Smithsonian programs relating to research are overseen by the Assistant Secretary for Research; programs relating to museum exhibitions, object interpretation, professional training, and collections are under the aegis of the Assistant Secretary for Museums. For these latter programs, Smithsonian museums and galleries, along with some supporting activities, report to the Assistant Secretary for Museums: these include the Anacostia Neighborhood Museum, Center for Asian Art (including both the Freer Gallery of Art and the Arthur M. Sackler Gallery), Cooper-Hewitt Museum, Hirshhorn Museum and Sculpture Garden, Air and Space Museum, Museum of African Art, Museum of American Art and the Renwick Gallery, Museum of American History, Museum of Natural History/Museum of Man, and the Portrait Gallery. The Assistant Secretary for Museums also oversees the Archives of American Art, Traveling Exhibition Service (SITES), the Office of Horticulture, Conservation Analytical Laboratory, Office of Exhibits Central, Office of Museum Programs, Office of the Registrar, and South Group Buildings Management.

Information on the Office of Horticulture and South Group Buildings Management appears in the chapter on Administration, Financial and Other Support Services to be consistent with the FY 1988 budget presentation to the Office of Management and Budget.

Current and Projected Resources

As Smithsonian collections have grown, so have the resources associated with their exhibition, care, and research. Current funding for Museum activities consists of a mixture of appropriated federal funds, infrequent federal grants and contracts, nonappropriated restricted trust funds, and allocations of nonappropriated unrestricted trust funds. In FY 1986, resources available to the Assistant Secretary for Museums amounted to approximately \$95,000,000 and 1,769 full-time positions. About 67 percent of the dollar figure and 89 percent of the personnel represent federally appropriated support for basic exhibit, research, education, collection management and administrative activities of the museums, galleries and other offices. Most of the balance consists of resources associated with trust operations, with only a small portion originating in federal grant and contract work. A breakdown of FY 1986 and projected FY 1992 levels of resources follows:



Crowds overflowed the Air and Space Museum's Langley Theater to hear Carl Sagan during a free public lecture to celebrate the return of Halley's Comet. This was one of many activities offered during the tenth anniversary year of NASM.

<u>Source of Funds</u>	<u>FY 1986</u>		<u>Projected</u> <u>FY 1992</u>	
	<u>Full-Time</u> <u>Employment</u>	<u>Funds</u> <u>(\$000)</u>	<u>FTE</u>	<u>Funds</u> <u>(\$000)</u>
Federal Salaries & Expenses	1,575	\$65,492	1,792	\$ 82,853
Unrestricted trust	102	19,882	101	11,564
Restricted trust	61	8,381	51	8,731
Federal Grants & Contracts	31	1,606	28	1,566
	—	—	—	—
Total ^{1/}	1,769	\$95,361	1,972	\$104,714

^{1/} Activities covered in the Special Programs chapter, but managed by the Assistant Secretary for Museums (including Special Exhibitions, Major Collection Acquisitions, and the Museum Support Center activities) amount to approximately \$4,700,000 federal appropriations and \$4,100,000 trust operations in FY 1986; these expense figures are not included here, but are contained within the Special Programs chapter or (in the case of Major Collection Acquisitions and Special Exhibitions) are spread throughout the bureau and office figures for FY 1986.

Generally, the Museum of American History, the Museum of Natural History/Museum of Man, the Museum of American Art, the Museum of African Art, the Hirshhorn Museum and Sculpture Garden, the Portrait Gallery, the Anacostia Neighborhood Museum, Office of Museum Programs, Conservation Analytical Laboratory, Office of Exhibit Central and Office of the Registrar are supported predominantly with federal funds. Their exhibition, research, collections management, and building operations comprise their major expenses. Organizations which work with fairly evenly mixed financing include the Cooper-Hewitt Museum and the Archives of American Art.

Unrestricted trust fund support is concentrated primarily in the Cooper-Hewitt Museum, Archives of American Art, Museum of American History, SITES, and the Air and Space Museum. Restricted trust fund support is largely directed to the operations associated with the Freer Gallery of Art, the Cooper-Hewitt Museum, the Archives of American Art, Office of Museum Programs, Traveling Exhibition Service, and the Museum of Natural History/Museum of Man. Most of the grant and contract work is present in the Museum of Natural History/Museum of Man. The Cooper-Hewitt Museum receives an annual allocation of Smithsonian unrestricted trust funds to help support its programs; beginning in 1979, federal funds supported a small portion of the exhibition program as well as the costs of maintaining and protecting the building and collections and a share of administrative costs. In addition, the Cooper-Hewitt Museum raises in excess of a million dollars annually to support its exhibitions and

related educational activities. The Museum of African Art raises from \$25,000 to \$50,000 per year from private sources to finance educational activities and acquisitions. The Archives of American Art's Board of Trustees and membership program raises between \$500,000 and \$600,000 each year to support more than one-half of the Archives' program. Only the Traveling Exhibition Service has the majority of its support provided from unrestricted (\$1,861,000) and restricted trust funds (\$842,000), which constitute 86 per cent of its resources in FY 1986. In FY 1986, the Kellogg Foundation awarded the Office of Museum Programs (working in conjunction with the Resident Associate Program) a second three year grant to foster the educational influence of museums; the first grant began in FY 1982. Apart from this, the Office of Museum Programs has revolving trust fund budgets to receive revenues for handling and shipping costs associated with audiovisual programs on conservation information. The Office of Horticulture, South Group Buildings Management and the Office of Exhibits Central have small trust fund accounts to provide support for trust fund activities.

In addition to this general pattern of fund availability and use, most of these organizations are eligible for allocations from the special trust fund Collections Acquisition, Scholarly Studies, Education, and Special Exhibition Programs. They also enjoy the presence of interns and pre- and postdoctoral research fellows selected competitively through the Smithsonian's fellowship awards program and funded with nonappropriated unrestricted trust funds.

Future Year Prospectus

Because of uncertainties surrounding the future year impact of Public Law 99-177 on institutional resource levels, additional federal program resources beyond FY 1987 for most Museum activities are projected at minimum levels in the Five-Year Prospectus, along with resources to be sought to cover uncontrollable expenses such as necessary pay and inflation.

Now that the building structure has been completed, efforts will concentrate on the establishment of Quadrangle operating programs. The building is home to the Arthur M. Sackler Gallery and the African Art Museum, along with the Directorate of International Activities, the Resident and National Associates Programs and the Traveling Exhibitions Service. The two museums will move to the building in the fall of 1986; the public opening is scheduled for 1987. Federal resources for program development in such areas as collections management, exhibitions, and education, will amount to about \$7 million in FY 1992 for both museums, or approximately \$1 million more than the request for FY 1988. In addition to the Museum of African Art and the Sackler Gallery, federal resources for basic building management, security, and utility costs, and other program support by 1992, should total about \$7.5 million. Operational resource projections for occupants of the Quadrangle are summarized in Table 5.

Interpretation and communication of the various museum activities to the broader museum community will continue to be a priority, with increased emphasis from the Office of the Assistant Secretary for Museums.



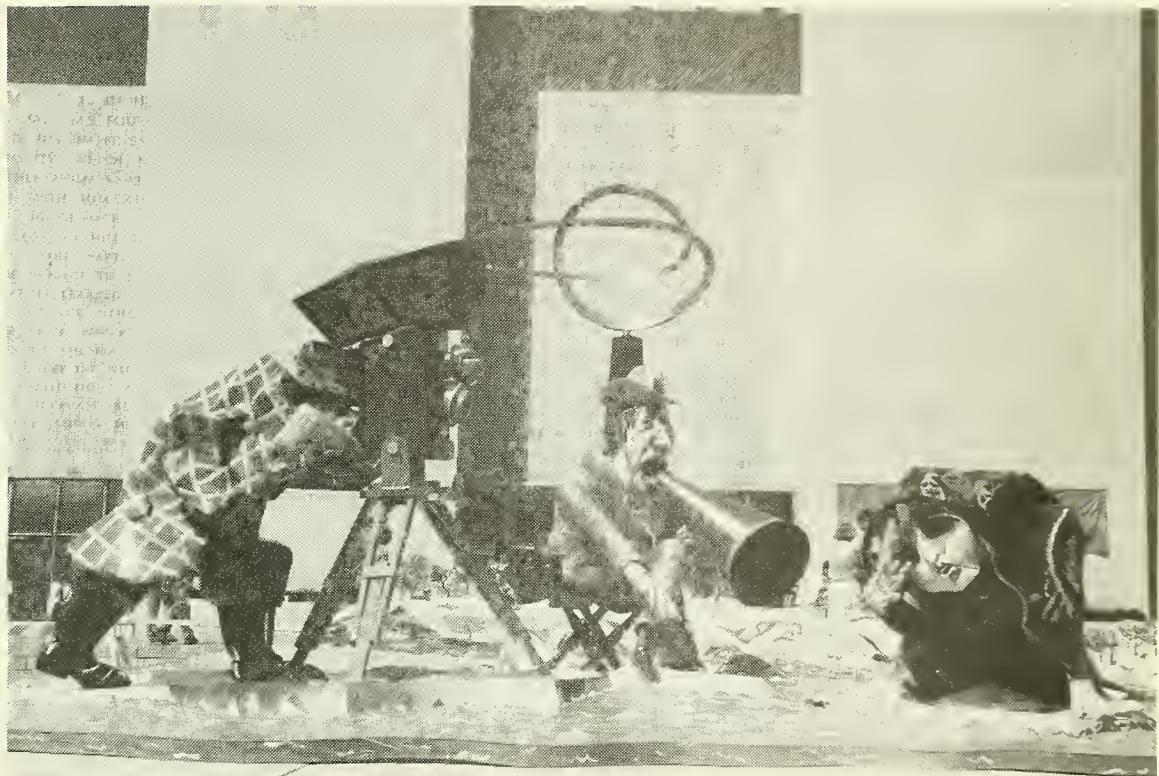
Alicia Taylor leads a children's workshop held in conjunction with the exhibition, Praise Poems: The Katherine White Collection, at the National Museum of African Art. This type of workshop will continue to be offered at the museum's new quarters in the Quadrangle.

Because so many of the world's museums look to the Smithsonian for leadership in this field, we shall have to assert that leadership aggressively and thoughtfully. The same is true in the realm of professional training, where the Smithsonian has long managed a number of significant programs. Museum training is becoming more sophisticated and requires constant incorporation of new approaches to assure that colleagues in the U.S. and abroad are being served in quality ways. New training techniques, expanded training for developing countries, and innovative audiovisual materials as teaching tools are being planned.

The emphasis on collections management, research, and automation activities continue as Museum priorities. Base line collections inventory, completed in FY 1983 helped to focus attention on the growing challenges of collections storage and conservation. Accessibility to collections and collections information for scholarly research and management requires continued attention and improvement to storage facilities. Collections of the Smithsonian art community are particularly in need of creative storage solutions as are those of the Air and Space Museum because of the large scale of NASM acquisitions. The Smithsonian is developing and using automated technologies for information retrieval, object control and data management in the collections arena. Timely, accessible, and meticulous collections records are viewed as necessary for the prudent management of the Nation's patrimony and programs to this end continue. The challenge to the Institution is to move ahead with collections management in a time when adequate resources may not be available.

Many areas of research at the Smithsonian have been traditionally driven by the collections. Currently, various bureaus are engaged to differing degrees in research on their diverse collections; Appendix II contains some descriptions of these activities. In future years, use of the collections for research at the Smithsonian will increase. The recent inventory has brought into focus for Smithsonian and other researchers the variety, range, and depth of the collections, and the information potential they represent. The establishment of research and conservation laboratories and curatorial areas at the Museum Support Center, the provision of additional internships and fellowships, the upgrading and replacement of research equipment, and the growing importance of the Institution's international functions combine to provide a strengthened base from which collections oriented research can receive greater emphasis in future years. In addition, archaeometric studies will become increasingly important. In studying man-made objects, form and decoration have classically been the differentiators establishing provenance. With the advent of archaeometry, the chemical composition, internal structure and other physical characteristics of objects can be quantified and statistically analyzed by computer techniques. Such studies need large numbers of objects of known provenance to be sampled, accurately measured and the data stored in an accessible manner. The Smithsonian Archaeometric Research Collections and Records (SARCAR) of the Conservation Analytical Laboratory have been set up to focus research in this area and to maintain a bank of data and samples.

Initial activities for the Conservation Analytical Laboratory training program include a series of seminars for advanced specialists, refresher courses for practicing conservators, practical internships for



"Way Down East" is installed on the south terrace of the National Museum of American History as part of the exhibition, Hollywood: Legend and Reality. Photo by Richard Hofmeister.

students in conservation training programs and advanced internships for graduates of such programs. A new entry level training program for furniture conservators has been initiated. Based upon experience gained through these activities and on careful evaluation of the needs of the profession, future directions for the program will be identified and incorporated. CAL will consult closely with other training programs to assure that the Institution's role in national conservation training endeavors is appropriate. The internal staff structure of the Laboratory has been reorganized to accommodate its larger size and its several specialized functions. Working from these foundations, the Laboratory will be in a substantially stronger position to offer support to the Institution's museums and to museums generally through its research programs in conservation technology, its information program for conservation professionals, its training activities, its support activities in conservation treatment and analysis, conservation science and archaeometry.

The Museum of American History continues to plan for improvements to its research capabilities through the creation of a Center for the study of American History. This program would combine existing research centers at the Museum, formalize relationships with several universities, promote new affiliations, and provide encouragement and opportunity for intramural research. The Museum also continues to develop long range space plans for the next twenty years based on current collections growth and related requirements.

At the National Museum of Natural History/Museum of Man, where true base line information on the collections is not yet complete, staff will continue to create new item and batch level data (i.e., refinement of collection level records) while updating and maintaining the growing inventory data base numbering some 3,000,000 records. The Museum is committed to a sound integrated collections management program which will guarantee better, safer care and easier access to the nation's millions of stored treasures for the education, enjoyment, and scholarly research purposes for people world-wide. Also, the Museum has recognized that advances in biological, physical and anthropological sciences are outpacing the rate at which permanent exhibits are being renovated causing many displays to be badly out of date. Therefore, the Museum will seek to maintain the integrity of its permanent exhibit halls within available resources. The Air and Space Museum will continue to develop innovative exhibitions although schedules may be stretched out to meet limited resources due to budgetary constraints. The new IMAX film "On the Wing" premiered at the Museum in early summer 1986, and another film on space exploration is under conceptual development, perhaps to premiere in conjunction with the proposed International Space Year of 1992.

The bicentennial of the United States Constitution will be the second of the major celebrations marking the birth of our nation (the bicentennial of the American Revolution in 1976 being the first). This historic period (the draft of the Constitution was approved in September 1787 but not fully ratified until July 1788) will be marked with exhibitions, lectures, film, and symposia which will reacquaint today's generation with the historical context of our constitutional roots and their development over time. In particular, the Museum of American

History will open, in the fall of 1987, an exhibition and related programs on "The Japanese American Experience in World War II." This exhibit will deal with the complex problems facing national and state decision makers during World War II, when they had to balance constitutional guarantees of civil rights against the perceived requirements for military security. The exhibition will particularly focus on issues of civil rights for Japanese Americans and on their patriotic contributions during World War II. "The Portrait in America from 1700 to 1776" will, through portraits of the period, serve as a valuable source of information about American culture during the period leading up to the drafting of the Constitution. This exhibition is scheduled to open at the Portrait Gallery in October 1987. In the spring of 1989, the Portrait Gallery plans to offer "Portraits of Distinguished American Jurists," an exhibition which will evoke the rich personalities and abilities that came into play in determining the evolution of this country's legal processes and institutions. Other Bicentennial programs will be offered by the Resident Associate Program, the Office of Elementary and Secondary Education and a major international symposium on "Constitutional Roots, Rights and Responsibility.

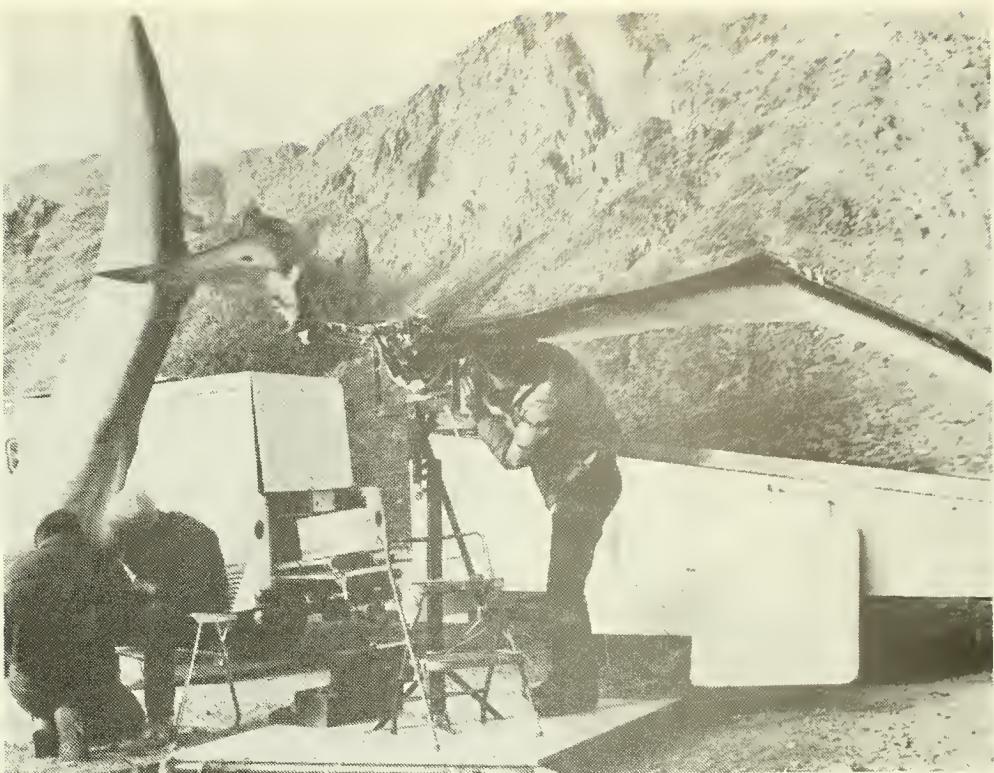
In November 1986 the Museum of American History opened its second major permanent exhibition entitled, "Engines of Change: The Industrial Revolution in America, 1790-1860." This exhibition shows how the Industrial Revolution in America brought tools for transforming energy, new ways of organizing work, and a new entrepreneurial spirit to the United States. This gradual reinstallation of new permanent exhibitions, given necessary financial support, will take place at the pace of at least one a year. In February 1987, the Museum opened another major exhibition, "Field to Factory: Afro-American Migration, 1915-1940." The exhibition focuses on life in the south, the journey north, and adjusting to the new northern urban world. It is the first in-depth exhibition on a topic of social and historical importance to be mounted by the Museum from an Afro-American perspective. Major exhibitions are planned on the "Information Revolution" and commemoration of the Quincentenary of Columbus' arrival in the new World. Development of a new Native American Program, being jointly developed with the Natural History Museum, will also proceed.

Exhibitions, of course, continue to be our most visible means of communicating our interests and knowledge to the visiting museum public. The Institution, under its new organization, will undertake a comprehensive look at the costs of its current exhibiting enterprise, whether it is money well-spent, and whether there are ways of stretching our exhibition budgets further. In a period of increasing austerity, the Institution needs to consider how the total exhibition program can be made more effective in various museums and in serving various audiences.

The Anacostia Neighborhood Museum's (ANM) new Annex was completed in FY 1986. Its public opening will be in the spring of 1987. This wing will enable the ANM to discontinue the lease on the old Carver Theatre and consolidate all of its activities -- exhibitions, education, and research staff -- in one location. A comprehensive survey of collections begun in FY 1985, with the Museum of American History, to identify artifacts and material with significant Black American relevance will also be completed



Visitors enjoy two paintings at the opening of The Art of
New Mexico exhibition at the National Museum of American Art.



AeroVironment, Inc. engineering staff members assemble (above) and prepare to launch (below) the flying replica of the giant prehistoric pterodactyl *Quetzalcoatlus northropi* (QN) which appears in "ON THE WING," a new film which premiered at the National Air and Space Museum. Photos by S.C. Johnson & Son, Inc.

in FY 1986. Study of these materials will lead to new insights and a greater understanding of the history and culture of Black America. Through such initiatives, the Anacostia Museum will be seeking a stronger role in its educational activities and in planning for further development for the 1990s.

In 1984, the Congress authorized the transfer of the Old Post Office Building to the Smithsonian. Concept and space planning for the renovation of the building has been initiated. Detailed design requests are planned for FY 1989. Presently this building is envisioned to be used as an expansion of Smithsonian's Gallery Place which houses American Art, the Portrait Gallery, and the Archives of American Art. Together, these three organizations -- their collections, historical documents and staff resources -- form the nucleus of what has become (and will continue to develop as) a major center for the study of American art and material culture. Eventual restoration of the Old Post Office Building will enable these operations to accommodate public demand for programs, and to continue development of research programs, exhibitions, lectures, publications, and collections.

Improving the care of collections also is planned by the Cooper-Hewitt Museum, but added resources are needed to provide professional care to the wall covering collection, which currently has no curator, as well as to increase professional curatorial assistance in the prints and drawings, decorative arts, and textiles departments. Space improvements are also being planned. The Carnegie Mansion renovation in the 1970s resulted in climate controlled areas and conservation facilities for the prints, drawings, and textiles collections. Significant improvements in space for the large and important decorative arts collections (furniture, glass, etc.) and the wall covering collection, now housed in largely inaccessible areas in the mansion and the adjacent deteriorating Miller House, are needed. Creation of collection storage areas, and exhibition and education facilities are basic to future year operations of the Cooper-Hewitt. Comprehensive renovation to meet these needs has been estimated to cost around \$25,000,000 and a capital campaign effort has begun. Matching appropriations for construction will be sought as fund raising efforts are assured. This facilities project will provide for the safekeeping, care and exhibition of these collections for generations to come.

Planning must also be undertaken for Air and Space Museum storage and exhibit areas at Dulles International Airport. Renovations and new construction is needed to strengthen programs and to meet new responsibilities for public display of large air and space objects, such as the space shuttle.

The Museum of American History has not been immune to the pressures for more space. Collections storage space is in very short supply both at the Mall Museum and at the Suitland storage facility. As a consequence, exhibit space in the Museum has over the years been incorporated for storage and office use. While the Museum will occupy a small portion of the Museum Support Center, this will relieve only a small measure of the problem. A study of space needs carried out in 1986 presented a projection of needs. The study was carried out in the context of the



Young visitor enjoys a Target painting by Kenneth Noland at the Hirshhorn Museum.

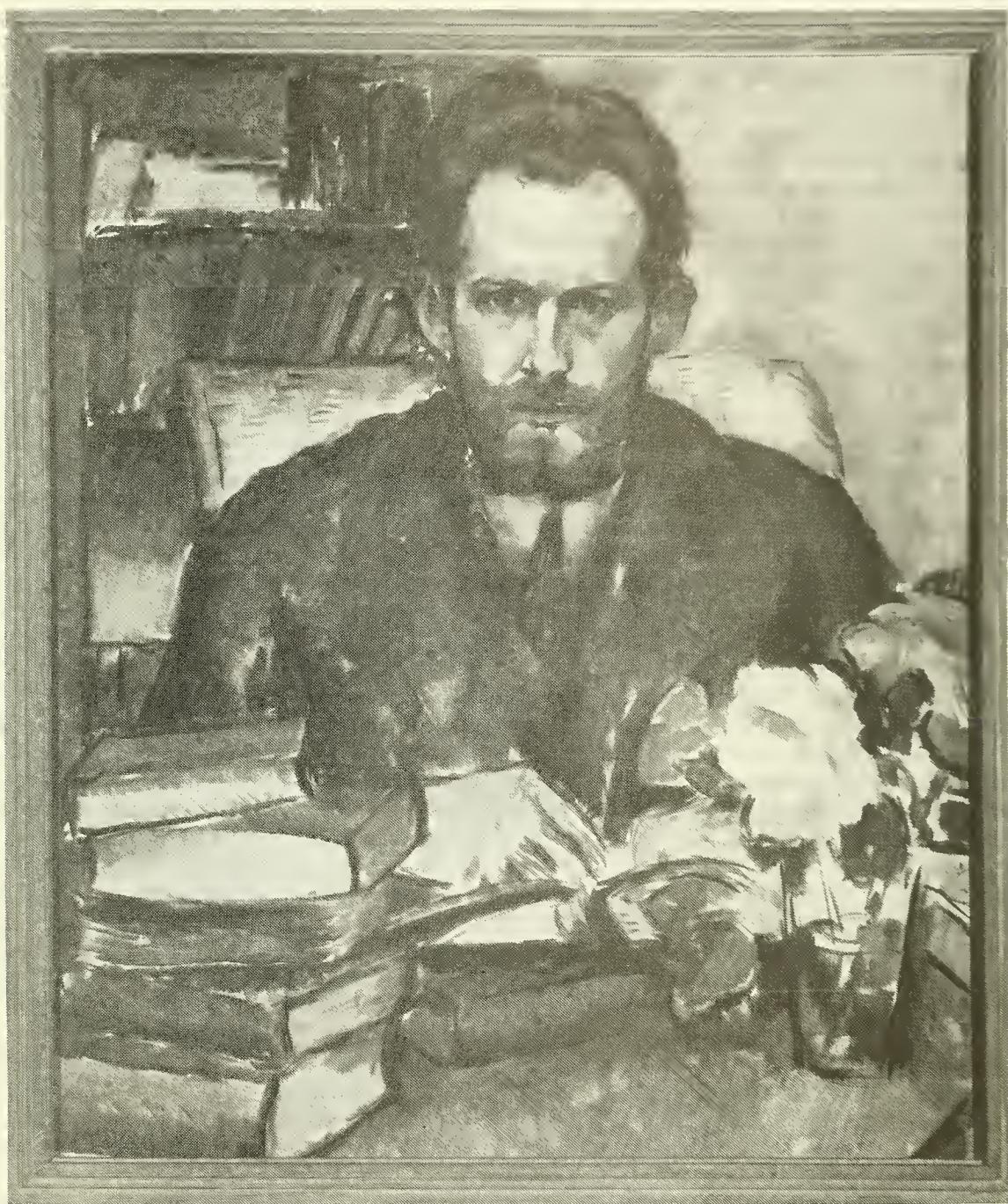
Smithsonian's master plan for Suitland. Briefly, new facilities or new construction will be needed before 1996 to provide a home for the national collections, of which half are housed in the Butler buildings at Suitland. These buildings were constructed as temporary facilities several years ago and new space needs to be created in the next ten to fifteen years.

These various construction and renovation efforts represent by far the largest need for direct new funding on the part of Museum bureaus of the Smithsonian. Additional information is contained in the Facilities chapter and the Beyond 1992 chapter of this document.

The Office of Museum Programs (OMP) will work with other units, notably the Museum of American History and the Museum of Natural History, in strengthening Native American Programs in general. These two museums have just begun a new cooperative Native American Program. The number of qualified Native Americans available to serve the more than 100 tribal museums and cultural centers and the museum profession remains discouragingly small. Although these museums hold remarkable and important collections of historical and ethnological materials, they lack resources to provide the required training themselves, or to obtain much needed technical assistance for their museum operations. The informational audiovisual programs dealing with preventive maintenance and care of collections in museums continue to be in great demand. OMP will increase the number of subjects covered by these slide sets and videotapes. The On-site Workshop Program along with the Internship and Visiting Professionals Program are responding to the increasing requests from museums by adding to the quality and number of units offered.

Annually, the Office of Exhibits Central (OEC) serves approximately forty Smithsonian units and is involved in some two hundred and fifty projects. OEC is a major source of exhibit support for the Traveling Exhibition Service for its national and international exhibition programs. To maintain productive capacity in the coming years, the Office of Exhibits Central needs to add some exhibit professionals to its staff, and these increases are incorporated into the projections. These positions would help to fill Institution-wide demand for design and editing services, model making, graphics production, and exhibit fabrication.

The Traveling Exhibition Service (SITES) moved into the Quadrangle in late 1986, where in addition to working with Smithsonian museums, it will collaborate with the International Center to organize, produce and circulate exhibitions. The inaugural exhibition for the Quadrangle's International Gallery is a joint project between SITES and the Directorate of International Activities and will explore cross-cultural attitudes, life cycle imagery, and rituals surrounding human birth. The new Quadrangle facilities also provide SITES the opportunity to work more closely with museum educators throughout the country: the Education Workshop in SITES new offices will be the location of meetings and seminars to assist in the development and testing of effective, exhibition-related educational materials for the museum market. SITES domestic and international exhibition programs have enjoyed great success. Major international exhibitions include "The Paris Style: Art Nouveau Bing" which began its tour at the Virginia Museum of Fine Arts, Richmond, in October 1986. "Gauguin and His Circle in Brittany: The Prints of the



A recent acquisition of the National Portrait Gallery is this oil on canvas painting of Willard Huntington Wright (also known as S.S. Van Dine) by his brother Stanton MacDonald Wright. This purchase was made possible through a grant from the James Smithson Society.

"Pont-Aven School" began its tour in the Netherlands and opened in November 1986 in the U.S. at the Phillips Collection in Washington, D.C. Significant progress in U.S.-U.S.S.R. cultural exchange was realized with the opening of "Russia, The Land, The People: Russian Painting 1850-1910" which will remain in the United States for one year. In 1987, SITES will tour its companion exhibition, "New Horizons: American Painting 1840-1910" in the Soviet Union. In addition to these international exhibitions organized by SITES, "Hollywood: Legend and Reality" began its tour at the National Museum of American History in April 1986, destined for a six stop domestic tour as well as showings in Japan and possibly Europe through 1989. SITES works in collaboration with nearly all Smithsonian museums; the exhibitions and expertise to museums of all sizes and disciplines, to libraries and to cultural centers. SITES charges participation fees for exhibitions to recover programmatic costs and receives a small federal appropriation.

The Office of the Registrar will continue to maintain oversight responsibility of Institutional development and coordination of policies and practices related to the management of collections. Collections accountability, enhancement of secure and efficient methods of access to physical collections and to related collection information, review of collection storage needs including material handling techniques and technologies, and timely response to professional developments -- nationwide and internationally -- are the goals of the work of the Office of the Registrar.

In summary, federal resources are projected to amount to about \$83,000,000 in FY 1992, with a large portion of the increases over FY 1986 levels associated with various aspects of Quadrangle program operations being sought in FY 1987-88; e.g., for the Museum of African Art, Sackler Gallery and other programs. Other major requirements are associated with the Museum of Natural History and the Museum of American History. Restricted and unrestricted expenses are expected to remain about stable; the period between FY 1986 and FY 1992 reflects largely the expensing and accounting for the purchase of the Vever collection of Islamic and Persian Art for the Sackler Gallery in FY 1986. Grant and contract activity is expected to continue to be only a small portion of overall resources. Detailed projections for Museum activities are contained in Appendix I.

PUBLIC SERVICE

The Public Service programs are the central focus for the Institution's "diffusion of knowledge" activities. These are: Smithsonian magazine, contained within the Associates Program chapter because of the general support the magazine provides to many programs of the Institution and because it is viewed as a major benefit to Associates; Smithsonian Institution Press, including the university press publications, popular books marketed through direct mail, and the Smithsonian Recordings Program; Office of Elementary and Secondary Education, contained within the Special Programs chapter to provide consistency with the FY 1988 budget presentation; Visitor Information and Associate Reception Center; the Office of Telecommunications; the Office of Public Affairs; the office which coordinates the work of the Office of the Committee for a Wider Audience and the Cultural Education Committee; the Office of Smithsonian Symposia and Seminars; the National Science Resources Center; and the Office of Folklife Programs. The latter three offices also are incorporated within the Special Programs chapter to be consistent with the budget submission. The Office of Smithsonian Symposia and Seminars and the Office of Folklife Programs carry out research activities in conjunction with their public outreach and diffusion activities. The vigorous growth of Smithsonian outreach trust funded programs can be attributed largely to the success of the Magazine. Through the application of trust funds generated by the Magazine and other revenue producing activities, a variety of valuable research activities, conferences, publications, and other projects have been made available in recent years to the public. While these projects enrich the kinds of services provided, the Institution has as a result been able to reduce the requirements for federal appropriations.

Current and Projected Resources

Resources in FY 1986 devoted to Public Service activities amounted to about \$17,000,000 and 125 full-time employees. Total funding in FY 1986 consisted of approximately 13 percent federal appropriations and 87 percent nonappropriated unrestricted trust funds. The largest amount of support for Public Service programs comes from the Institution's trust operations, and unrestricted trust fund support is, for the most part, concentrated in the expenses of the Smithsonian Press which derives these resources from the sale of trust funded books and records, royalties, and special publishing services. These funds support about one-half of the Press staff and also provide for the necessary services required to develop, market, warehouse, and distribute records and scholarly and general interest books, which are published in connection with the Institution's research, collections, exhibitions, and other programs. Federal appropriations largely support the publication of the basic technical and scientific series distributed by the Government Printing Office, other publications and conferences, and a portion of the staff and operations of the Institution's centralized film and television operations. The Visitor Information and Associates' Reception Center and the Office of Telecommunications are operated primarily with trust funds. Restricted purpose funds are occasionally obtained for support of special



Louise Steele, a Smithsonian volunteer information receptionist and Castle docent for 16 years, was selected as the outstanding volunteer for 1986 by the Washington Convention and Visitor Association (WCVA). Mrs. Steele is shown receiving the first annual WCVA Hospitality Award for volunteers serving visitors to the Nation's Capital.

activities sponsored by various units; for example, funds to support major film projects of the Office of Telecommunications.

A breakdown of FY 1986 and projected FY 1992 levels of resources follows:

<u>Source of Funds</u>	<u>FY 1986</u>		<u>Projected</u> <u>FY 1992</u>	
	<u>Full Time Employment</u>	<u>Funds (\$000s)</u>	<u>FTE</u>	<u>(\$000s)</u>
Federal Salaries & Expenses	52	\$ 2,229	53	\$ 2,502
Unrestricted trust	73	15,117	73	21,738
Restricted trust	-		-	-
Federal Grants & Contracts	-	31	-	-
	—	12	—	—
Total ^{1/}	125	\$17,389	126	\$24,240

^{1/} Activities covered in the Special Programs chapter, but managed by the Assistant Secretary for Public Service (including Outreach activities, Folklife Programs, Elementary and Secondary Education, Symposia and Seminars) amount to approximately \$1,000,000 federal appropriations and \$2,400,000 trust operations and grants and contracts in FY 1986; these expense figures are not included here, but are contained within the Special Programs chapter or (in the case of Outreach activities) are spread throughout the bureau and office figure for FY 1986.

Future Year Prospectus

Because of uncertainties surrounding the future year impact of Public Law 99-177 on the Institution's resource levels, projections of additional federal program increases for Public Service activities are minimal, although some added amounts will be sought to cover uncontrollable expenses such as necessary pay and inflation. Public Service activities play a key role in placing the Smithsonian in contact annually with an estimated public of over 85 million individuals through publications, recordings, television, and films. Some units (Office of Smithsonian Symposia and Seminars, Office of Folklife Programs) are involved in non-collection-based increase and diffusion endeavors while others (Visitor Information and Associates' Reception Center, Office of Public Affairs, Office of Telecommunications) furnish support services to the entire Institution. Smithsonian Institution Press, Smithsonian magazine, Office of Smithsonian Symposia and Seminars, Office of Telecommunications, Office of Folklife Programs, Office of Elementary and Secondary Education, and the Office of Public Affairs produce a broad range of publications;

the Office of Elementary and Secondary Education provides the Institution's major links with school systems locally and across the nation. Public Service programs and services constitute the Institution's major delivery systems for research and educational materials serving the Smithsonian's domestic and international network of individuals and organizations.

Developing more effective uses of media in the coming years is perhaps the greatest challenge facing the Smithsonian under one of its two chartered responsibilities, the diffusion of knowledge. As an outgrowth of many meetings with Smithsonian staff and others, a comprehensive media approach is being designed with the potential to transform the process of bringing knowledge into the classroom and to the general public, across the United States and abroad. The University of the Air or "Smithsonian Electronic Education" (SEE) is an approach that combines the best of television, textbooks, and the interactive disk. There are a number of ongoing Smithsonian activities planned around the new information technology that complement and reinforce SEE. In collaboration with the National Academy of Sciences, the Institution has established the National Science Resources Center (NSRC) to help revitalize the teaching of precollege science and mathematics. The main focus of the NSRC (contained within the Special Programs Chapter) will be to provide resources for precollege science and mathematics education to teachers across the country. The Center will augment regional efforts to improve science and mathematics teaching by serving as an information center to identify and disseminate high quality teaching resources to teachers and school systems. It will also serve as a focal point for the translation of new scientific developments and knowledge about the learning process into effective resources for teaching science and mathematics. NSRC will organize professional development institutes for selected teachers, principals, and curriculum supervisors to encourage the sharing of successful materials and programs, and assist in building a talent pool to help staff local program improvement efforts.

In FY 1987, the Office of Elementary and Secondary Education, the Office of Smithsonian Symposia and Seminars and the NSRC, while retaining their autonomy, will work together to bring Smithsonian education into sharper focus and to improve its quality and cost effectiveness over the next several years. This joint effort is expected to play an important complementary role in launching and stabilizing the new starts in electronic media.

A National Demonstration Laboratory for interactive Educational Technologies (NDL) is an additional converging effort established in association with the Interactive Videodisc Consortium, an organization of public broadcasting stations supported by the Corporation for Public Broadcasting. As a primary goal for its first few years, the NDL will set up a demonstration facility for planners of education programs to examine interactive technologies. Future year activities may include sponsoring symposia on related topics and conducting research on available interactive materials.

As a continuation of the Institution's outreach efforts begun in 1983 with the establishment of the Committee for a Wider Audience, a new



Office of Telecommunications cameraman, John Hiller, and producer, Lee Cioffi, on the Mall at the 1986 Festival of American Folklife. Footage was used to produce a "HERE AT THE SMITHSONIAN..." television feature for national broadcast.

Cultural Education Committee has been established which is designed to help the Smithsonian better address museum issues associated with serving the growing cultural and ethnic diversity interests of the United States. This new committee is comprised of distinguished Washingtonians from major U.S. Cultural groups (Afro-, Asian-, Hispanic-), native and other Americans. The Cultural Education Committee will assist senior management in the task of broadening outreach through more varied cultural programming, representation in exhibits, and in developing resources and a more diversified Associate and Contributing membership to undergird these efforts.

The absence of substantial projected federal support for program growth over the planning period constrains anticipated expansion of some Public Service activities. The Smithsonian Press, for example, would establish a section which would streamline the process of publishing many of the smaller, less complex bureau publications, such as booklets, flyers, floor plans, educational materials, posters, exhibition check-lists, newsletters, invitations, etc. These account for about 120 to 150 jobs per year out of the Press' total output of over 350 jobs. Increased funding would have freed present editorial and production staff to allow for the publication of an increasing number of yearly University Press Division books on subjects related to Smithsonian interests and activities. The Office of Public Affairs will continue to seek wider audiences around the nation with news about the Institution's research, exploration, exhibition, and other activities.

Over the planning period, some growth in trust resources is projected. Additional trust funding is forecast for the Visitor Information and Associates' Reception Center to provide an increase in services to the general public and to respond to an expected growth in telephone and written inquiries. Over the period, work will continue towards completion of an orientation facility for visitor reception and information services in the Castle Building, initial funding of \$1,000,000 having been received from the Pew Memorial Trust. Overall trust funded activities are projected to increase from about \$15,000,000 in FY 1986 to approximately \$22,000,000 in FY 1992, but much of this is attributable to increases in expenses associated with revenue producing activities of the SI Press. Detailed projections for Public Service are contained in Appendix I.

DIRECTORATE OF INTERNATIONAL ACTIVITIES

The Directorate of International Activities was established in October, 1984 because of the growing importance of the Institution's international role in museum and collection management operations, research, exhibition techniques, and cultural and natural conservation. The function of the Directorate is to design and conduct a program to coordinate and balance all of the Institution's international activities, and to manage the International Center -- located in the Quadrangle Building -- the Office of Service and Protocol, and the Office of Publications Exchange. The Directorate also manages the Institution's Foreign Currency Program and is assigned overall responsibility for the Institution's commemoration of the 1992 Columbus Quincentenary. One of the Directorate's first initiatives was to identify the scope of the Smithsonian's current international activities. This has been published in the "Summary Profile of International Activities." The most recent "Profile" indicates approximately 1,000 projects underway during the past year. The Directorate acts as liaison with federal agencies and international organizations and institutions whose activities affecting scholars of other nations are congruent with those of the Smithsonian. The Institution's international activities will be publicly reflected in programs and operations of the Quadrangle's International Center, scheduled to open in 1987.

Current and Projected Resources

Most of the support for the Directorate in FY 1986 came from non-appropriated trust funds. Of the \$1,400,000 in available FY 1986 funds, approximately \$880,000 or 63 percent are nonappropriated. An breakdown of FY 1986 and projected FY 1992 resource levels follows.

<u>Source of Funds</u>	<u>FY 1986</u>		<u>Projected</u> <u>FY 1992</u>	
	<u>Full-time</u> <u>Employment</u>	<u>Funds</u> <u>(\$000s)</u>	<u>FTE</u>	<u>Funds</u> <u>(\$000s)</u>
Federal Salaries & Expenses	11	\$ 508	13	\$1,908
Unrestricted trust	11	591	11	910
Restricted trust	-	288	-	500
Federal Grants & Contracts	-	-	-	-
Total	22	\$1,387	24	\$3,318

Within available resources, the Office of Service and Protocol will continue to provide basic services necessary for the coordination of international aspects of Smithsonian research and museum programs. The Office of Publications Exchange will continue to foster scholarly interchange by enabling learned societies and universities in the United States to exchange their publications with those of their foreign counterparts.

Plans continue for the inaugural exhibition and associated programs in the International Center. The exhibition titled "Generations" which is due to open in September 1987, with the public opening of the Quadrangle, is a multi-disciplinary, multi-cultural exploration of the art and rituals associated with birth from ancient times to the present.

In other areas, a joint effort with the National Academy of Sciences culminated in a September 1986 National Forum on BioDiversity. The Forum provided the public with the learned views of distinguished scientists and scholars on the subject of the rapid destruction of the Earth's natural habitats and the subsequent loss of plants and animals. The Forum also included a poster-panel exhibition, film showings, displays of literature and audio visual materials, and a national and international teleconference via satellite and cable.

The Directorate has undertaken a pilot three-year program in cooperation with the National Museum of Natural History and the international Man and the Biosphere Program for the design of a practical, standardized methodology for collecting and managing biotic inventory and other biological data in existing and potential Biosphere Reserves and other endangered habitats. (Biosphere Reserves are areas selected for protection and study because they are representative examples of the world's major ecosystems). The project will further comparative work and accelerate the pace of understanding the scope and scale of biological diversity in the world.

Future Year Prospectus

With regard to the International Center, modest growth is projected over FY 1988-92 for research and cultural studies, and increased public understanding of the Caribbean and Latin America. The second exhibition in the International Center Gallery will combine these new initiatives. Entitled "Tropical Forests: A Disappearing Treasure," the exhibition aims to focus public attention on the crucial problem of the tropical forest - its ecology, its diversity, the threat to its existence, and the efforts being made to preserve it and to utilize it in a more environmentally and economically intelligent way. However, constrained federal support may well adversely affect the planned scope of this exhibition and its related programs. Consistent with the exhibition theme and purpose, International Center staff will also develop tropical biology and conservation workshops. It is intended that selected students and professionals from Latin America will participate in the workshops and will gain knowledge to apply to conservation concerns in their own countries. In addition, over the planning period an International Center visiting scholars program will be established to foster cross-disciplinary communications on subjects related to the goals of the International Center.

The most substantial growth projected for the Directorate over the next five years is associated with the Columbus Quincentenary. An overall Institution theme has been adopted for the 1992 Columbus commemoration, "Quincentenary: The Americas 1492-1992--Exploration of the Past - Encounter with the Present - Discovery of the Future." In FY 1987 program planning will be initiated in nine bureaus and offices in areas ranging from exhibition conceptualization to publications. Overall federal resources may approximate \$2,000,000 per year by FY 1992 for the

implementation of several scholarly conferences, numerous public programs and four to six major exhibitions currently in various states of planning covering potential topics such as masterpieces of Spanish portraiture, contemporary art of Latin America, and important plants that were introduced into both the Old and New Worlds as a result of Euro-American contact. This long term program is directed at stimulating public and scholarly interest in the historical background of Columbus' voyage and its impact on the past and present cultures of North, Middle and South America. Planning for the 1992 observance of International Space Year (ISY) includes exploration as a major theme. It is quite likely as concrete plans develop for the ISY, that areas of congruence with the Smithsonian's Quincentenary plans will emerge and cooperative projects developed.

SPECIAL PROGRAMS

Special Programs encompass a variety of activities, each managed by an appropriate Assistant Secretary. The grouping of these activities corresponds to the assembly of the Institution's budget to Congress and the annual financial reports. Special Programs include the Offices of American Studies and Folklife Programs, the International Environmental Science Program, Academic and Educational Programs (including the Office of Symposia and Seminars, the Office of Elementary and Secondary Education, the Office of Fellowships and Grants, and the National Science Resources Center); the Collections Management/Inventory Program; and the trust funded Collections Acquisition, Scholarly Studies, Education, and Special Exhibition and Publication Programs. This chapter also contains the equipping, move, and operating requirements for the Museum Support Center. The resources associated with the International Environmental Science Program, the Fellowship Programs of the Institution, and the trust funded Collections Acquisition, Scholarly Studies, Education, and Special Exhibition funds are generally available to all organizations of the Institution if they meet standards and selection procedures.

Current and Projected Resources

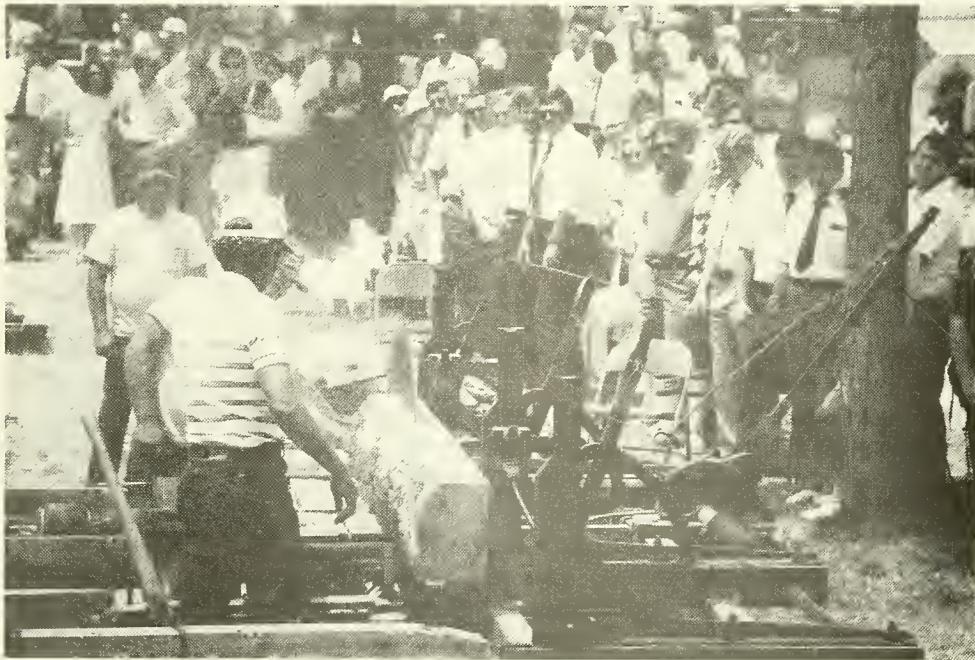
<u>Source of Funds</u>	<u>FY 1986</u>		<u>Projected FY 1992</u>	
	<u>Full-time Employment</u>	<u>Funds (\$000s)</u>	<u>FTE</u>	<u>Funds (\$000s)</u>
Federal Salaries & Expenses	83	\$ 6,978	84	\$ 5,689
Unrestricted trust	20	3,061	21	14,758
Restricted trust	-	527	-	850
Federal Grants & Contracts	-	221	-	732
Total	103	\$10,787	105	\$22,029

Funding patterns vary, ranging from programs which are funded entirely from federal appropriations to those funded solely through trust operations of the Institution. Folklife Programs operate with both federal appropriations and trust funds and also seek grants and contracts for special projects. Federal funds support the Folklife administrative staff as well as office expenses; travel expenses; research and publication efforts; two-thirds of the cost associated with the annual folklife festival; and special projects. Trust funds support the salaries of the remaining permanent staff members, about one-third the cost of the annual festival, and some travel and office expenses. Grants and contracts are sought to augment programs at the annual festival.

Trust funds cover all direct costs of the Visiting Research Fellowships, the Regent's Fellowships, the Cooperative Education Program, and the James E. Webb Fellowship program. Administrative costs for the Office of Fellowships and Grants, the office which manages fellowship programs, are essentially federally funded.



Children try a Japanese Bon dance, led by Yoko King, at the 1986 Festival of American Folklife. Photo by Dane Penland.



Visitors at the 1986 Festival of American Folklife experience the operation of a Tennessee sawmill firsthand. Photo by Jeff Tinsley.

The Office of Folklife Programs engages in the documentation, analysis, presentation and conservation of living folklife traditions. In addition to the scholarly study of folklife, the Office endeavors through its public programs to give national recognition to, and to educate wider audiences about, a variety of traditional cultural forms. The Office of Elementary and Secondary Education conducts its basic activities through federal appropriations; trust funds or grants support special projects, meetings, or conferences. A trust fund allotment made available in FY 1987, and federal funds being sought for FY 1988, will provide for the core operations of the National Science Resources Center. These resources will allow the development of program initiatives to attract support from the private sector. In addition to federal appropriations, the Office of Symposia and Seminars receives an annual allotment from trust funds for administration and direction of its activities, which include seeking outside support for the academic and intellectual meetings and publications which it designs and produces.

The International Environmental Research Program was established in the early 1970s to promote interbureau research on environmental matters by funding special, long-term projects using the principal scientific strengths of such organizations as the Tropical Research Institute, Smithsonian Environmental Research Center, Natural History Museum, and the Zoo.

Collections Management/Inventory Programs. In FY 1979, Congress appropriated special funds in the amount of \$500,000 to help the Institution begin conducting a major inventory of its various collections, including those being housed in the Museum Support Center. The initial inventory was completed in June 1983 with some one hundred million items documented in the collections. Since FY 1984 efforts have been concentrated on reconciling the inventory results with catalogue and other records, establishing procedures for entering data on incoming objects, refining the results of collections that were inventoried by batch rather than individual counts, and continuing to refine and improve the data processing systems for accessing information on the collections. The inventory data provides a crucial basis for SI's accountability for its collections and holds promise to facilitate research in the future. Continuing accountability requires that records be kept on collection location changes as well as additions and deletions from the collection and that computer technology and related employee skills improve in commensurate way. Thus there is a real need in the aftermath of the inventory to continue the program permanently on another level, and these funds now appear as a base enhancement to the projected activities of the Museum of Natural History and the Museum of American History.

Collections Acquisition, Scholarly Studies, Education, and Special Exhibition Programs. In FY 1978, the Regents established a special trust account to be used for strengthening the Smithsonian's collections through purchase of major works of art and objects of scientific and historical value, and to allow for the funding of special projects important to the research and educational functions of the Institution. Since inception, about \$23,000,000 in unrestricted trust funds have been used by the programs. These funds, along with some earmarked in each year for similar purposes, make possible important activities in various museums and other bureaus of the Institution, including major acquisitions. The funds have



The Hanadaue group from Mibu village, Hiroshima Prefecture, Japan, performs a rice planting ritual (tabayashi) at the 1986 Festival of American Folklife. Photo by Jeff Tinsley.

also supported scholarly studies and educational efforts, scientific workshops and conferences, student intern programs, presentations, programs and performances for special groups including the handicapped and the elderly, and weekend films and lectures for the general public. Beginning in FY 1986, the Regents also approved funds for a special publications program; this effort is intended to support annual publication of one or two meritorious scholarly books by Smithsonian staff. It is anticipated, given available funds, that these Regents' programs will continue during the planning period.

Museum Support Center Equipment, Move and Operations. Since the opening of the Museum Support Center (MSC) in 1983, most of the planned laboratories have been established and become operational, and work on completing the rest of these facilities is proceeding. Administrative and facilities management functions, including the automated data processing center, continue to serve occupants and users of the MSC. The move of the collections represents an unprecedented task involving many millions of objects and specimens. The move of "wet" collections (those preserved in alcohol) was completed in 1985. Many other specimens and collections have followed, and more are planned. The entire transfer of collections will occur over a multi-year period, with portions being moved only when construction of decks in the various pods are completed and appropriate storage equipment has been purchased, delivered and installed. The overall projects for deck construction and procurement of equipment are behind schedule and beset with other difficulties, limiting to this point the move of collections, and the ability to forecast with certainty when the facility will be fully utilized and operational. Funding of around \$3,000,000 is being sought in FY 1988 for the purchase of equipment for storage of large objects, shelves, drawers, and storage cabinets. Additional funding for FY 1988-FY 1992 is projected as needed to make full utilization of available storage space in the MSC. Actual costs for the collection storage equipment to be procured during this period may vary as a result of actual bids received at the time of procurement and the inflation rate.

Future Year Prospectus

The Office of Folklife Programs will continue to perform research for, and to plan and produce the annual Festival of American Folklife, which takes place during the two-week period at the end of June and over the July 4th holiday weekend. Future exhibition plans include cooperation with the Directorate of International Activities in producing exhibits and complementary public programs within the International Center of the Quadrangle. The Office also plans to expand the educational use of its archives, which includes recordings of Festival performances, fieldwork interviews, and documentation of other Office projects, to expand its interaction with national and international scholars through collaborative projects, and to continue its research and publications programs.

Additional trust funds will be utilized for the activities of the Office of Fellowships and Grants, if they become available. Added support for fellowships and stipends are projected. Continued increases in trust funding will permit expansion of the program, particularly to include two year post-doctoral awards while still maintaining the overall number of awards. Examination of the feasibility of establishing three year



Will Stutts performing in "Walt Whitman: Liberal and Lusty as Nature," part of the Living Portraits Series at the National Portrait Gallery. Photo by Barry Wilson.

fellowships will be undertaken during the planning period. A highly successful short-term Visitor and Workshop program will be continued. Increases are also planned for the prestigious Regents Fellowships. These awards are offered to scholars of distinction to conduct in-residence studies of major importance.

As part of the effort to enhance minority participation in the life of the Institution, OFG administers the Visiting Associates Program which brings faculty from all over the country, with a commitment to enhancing minority education, to the Smithsonian to learn of its research activities and opportunities. Plans include continuing this program, as well as expanding opportunities for minority students and scholars through internships, fellowships and other academic programs such as intensive introductory courses in Smithsonian fields of research.

Within constrained growth levels, the Office of Elementary and Secondary Education will work to strengthen the Institution's role in providing workshops, publications, and various services to the local and national pre-college educational community in the United States. The National Science Resources Center, a recently undertaken Smithsonian Institution/National Academy of Sciences project directed at improving the quality of science education in the nation's elementary and secondary schools through the development of resource materials for teachers, will be well established by the end of the planning period if added resources, federal and trust, are forthcoming. The Office of Smithsonian Symposia and Seminars is involved in the Institution's observances of the 200th anniversary of the signing of the Constitution. A seminar is planned which will examine childhood experience as preparation for adult civic responsibilities. The Smithsonian's ninth international symposium will be devoted to the theme "Constitutional Roots, Rights, and Responsibility" in 1987. The Office will also contribute to a special colloquium being planned for the opening of the Quadrangle.

Equipment and moving costs for the Museum Support Center are expected to continue over the planning period; FY 1988 levels are being sought at about \$3,500,000; these are projected as peaking in FY 1989 at about \$6,800,000, and then declining to about \$1,000,000 by FY 1992. Significant federal increases for other special programs are not projected for FY 1988-92 except for Folklife Programs, the National Science Resources Center, and some minor increases for the International Environmental Research Program. Some growth in trust support for the Collections Acquisition, Scholarly Studies, Education, and the Special Exhibition program is projected; as is the case for other trust funded programs, this support is contingent in future years on economic conditions, institutional priorities, and the abilities of the various auxiliary and revenue producing activities to sustain their popularity and financial performances.



The Harmonizing Four, Reverend Donald Vails and The Salvation Corporation join together for the grand finale in a Tribute to Thomas A. Dorsey, part of the Classic Gospel Song Series at the National Museum of American History. Photo by Eric Long.

ASSOCIATES PROGRAMS

Founded in 1965 on the 200th birthday of James Smithson, the original Associate Program was designed especially for residents of the Washington metropolitan area, drawing on the varied resources of the Institution to provide educational and cultural opportunities to individuals or families who chose to join. The larger institutional aims in public education, however, have always been to make Smithsonian resources increasingly accessible to people of all ages and without regard to their geographic distance from the National Mall. With the establishment of the Smithsonian magazine in April 1970 as a major benefit and feature of a membership program, the original Smithsonian Associate Program has evolved now to include separate National and Resident organizations which offer educational and learning experiences geared to public constituencies in the Washington area, as well as across the country.

This chapter covers future plans, changes in activities, and resource estimates for Associates programs, including the National and Resident Associate Programs, the Office of Membership and Development which coordinates these Programs, and the Smithsonian magazine which is part of the Office of Public Service. The recently established Air and Space magazine is included in this chapter because of revenue producing and constituency development potential.

Current and Projected Resources

These trust-funded operations in FY 1986 have revenues totaling over \$88,000,000 and 215 employees. Minor amounts also are available from special purpose funds and restricted gifts and grants. As a group they generated about \$10,000,000 in unrestricted trust income for the Institution in FY 1986 after cost of sales, payroll, and other operating expenses. Gross expenses for unrestricted trust Associate operations amounted to about \$78,000,000.

National and international study tours, lectures and seminars in Washington and across the U.S., and contributing membership activities are the ways through which the National Associate Program serves members without regard to their geographic location. The Resident Associate Program offers a variety of classes, lectures, tours, and other activities for members in the metropolitan Washington area. It has generally been self-supporting since 1972, generating modest net funds each year which are budgeted with unrestricted funds of the Institution. The fund raising and administrative costs of the Office of Membership and Development are considered an expense item against unrestricted funds. Contributions to the Smithsonian from corporations, foundations and individuals totalled over \$6,300,000 in FY 1986. This figure does not include the Contributing Membership Program, contributions from the members of the James Smithson Society, or contributions toward the Quadrangle project or other construction and renovation programs.

The Smithsonian magazine has been one of the most successful public education ventures established by the Institution. Its general acceptance

is a tribute to the role it has played in filling a need for style and elegance, as well as lucid reporting on cultural and scientific developments in today's world. The largest portion of the resources of this group of activities is attributable to the operations of the Smithsonian magazine.

Unrestricted income and expenses for FY 1986 and projected FY 1992 are summarized below:

	FY 1986		Projected FY 1992	
	<u>Full-Time Employment</u>	<u>Funds (\$000s)</u>	<u>FTE</u>	<u>Funds (\$000s)</u>

INCOME:

Office of Membership and Development	-	-	-
Resident Associate Program	\$ 3,711	56	\$ 5,185
National Associate Program	15,748	57	25,975
Smithsonian Magazine	65,577	91	97,330
Air and Space Magazine	<u>3,136</u>	<u>26</u>	<u>13,550</u>
Total	\$88,172		\$142,040

EXPENSES:

Office of Membership and Development	17	922	20	1,080
Resident Associate Program	50	3,716	56	4,970
National Associate Program	38	14,185	57	21,750
Smithsonian Magazine	89	53,807	91	81,800
Air and Space Magazine	<u>21</u>	<u>5,182</u>	<u>26</u>	<u>11,600</u>
Total	215	\$77,812	250	\$121,200

NET GAIN: \$10,360 \$ 20,840

Future Year Prospectus

National Associate Program. The objectives of the Smithsonian National Associate Program (SNAP) will remain as they have been since 1970 -- to provide to Associates and the general public high quality, educational experiences in subjects relating to the Smithsonian and to encourage support for the Institution's work. The enthusiastic participation of its national constituency has enabled the Program to meet and advance its outreach goals and has made the Program's fundraising activities a significant source of revenue for the Institution's unrestricted funds.

Through lectures and seminars, the Program will continue to bring scientifically and culturally sound, yet popular, activities to cities and towns throughout the United States. In cosponsorship with local scientific and cultural organizations, SNAP will visit twenty-two cities

in FY 1987, providing learning opportunities for Associates and positive public relations for the Institution. Building upon past successes, the offerings will expand throughout the country. In Washington, D.C. the Program will offer at least fifteen major seminars each year to associates and the general public.

The Associates Travel program looks toward a future of offering outstanding educational travel opportunities to Associates. SNAP will work closely with Air and Space magazine staff to provide study tours which meet the needs of its members. The Washington 'Anytime' Weekend program is expected to remain a popular and inexpensive way for out-of-town Associates to sample the delights of the Institution.

SNAP's Contributing Membership program will begin FY 1987 with more than forty thousand members. Through new acquisition, maintenance, and upgrade strategies, this will increase to seventy-four thousand members in FY 1992. Unrestricted contributions in that year should exceed \$8 million dollars.

The next five years will see SNAP continue to automate its operations; beginning in FY 1987, SNAP will introduce the use of credit cards for selected programs. The Program anticipates settling into its new quarters in the Quadrangle beginning this fall.

Resident Associate Program (RAP). In FY 1986, almost two thousand activities attracted more than 270,000 persons. Over the planning period, RAP expects a ten percent increase in attendance. RAP will continue to bring to the Smithsonian outstanding scholars and experts in the arts, humanities and sciences. The performing arts segment will continue to present renowned national and international performing artists, along with Smithsonian and respected local ensembles. Discovery Theater, Washington's theater for young people, will build on its record setting FY 1986 season (with an attendance of over sixty-five thousand children and their families) and offer live dramatic, musical and puppet performances. Due to refurbishment of the quadrant of the Arts and Industries Building where the theater is located, its performances have moved to the Baird Auditorium for calendar year 1987. It should return to its home in the Arts and Industries Building during FY 1988.

In conjunction with major Smithsonian and national celebrations, RAP will organize special programs. For the observance of the Bicentennial of the Constitution in 1987, RAP is organizing a seminar, tour, course and lectures. Between now and 1992 RAP will present a wide variety of activities as part of the Columbian Quincentenary celebration. RAP will continue to offer a range of courses, lectures, seminars, films, and performances on international subjects by leading scholars and performers from foreign countries. For these activities RAP benefits from the assistance and cooperation of embassies, international organizations, and the Woodrow Wilson International Center for Scholars. Planned programs to be held soon deal with Brazil, Japan, and the Soviet Union.

In FY 1987, RAP will have access to the new auditorium, classrooms, studio arts workshops, and photography laboratory in the Education Center

of the Quadrangle. The availability of this space and its state-of-the-art photographic and audio visual equipment enables RAP to expand its curriculum. In particular, the photography lab will be one of the finest teaching labs in the area, and the only one in the District of Columbia with color processing capability. Two of RAP's former classrooms in the Arts and Industries Building are being converted into a first-class print-making and bookbinding studio which will enhance the curriculum in these fields.

RAP membership in FY 1986 totalled more than 57,000 households, translating into approximately 132,000 individuals; the membership retention rate exceeded eighty percent. A recent increase in membership dues and changes in parking privileges may affect the retention rate, but it is hoped that the current level can be maintained. To generate new members, RAP is increasing direct mail efforts and advertising. To reach new audiences, RAP will continue to work with the Institution's Committee for a Wider Audience and other groups to develop new programs such as the popular new series of lectures designed for Washington working singles. RAP will maintain its vigorous commitment to the community through the Scholarship Program for inner city young people and adults to attend RAP courses tuition-free; Discover Graphics, the free etching/lithography workshop series for area high school students and their teachers; Tuesday Mornings at the Smithsonian, the lecture/breakfast series for senior citizens; and the annual Kite Festival. Beginning in FY 1987 Discover Graphics will have a permanent home in the new studio in the Arts and Industries Building.

Office of Membership and Development. In the face of increasing demand for private funds for Smithsonian programs, the Institution will significantly increase its development staff. Most of this increase will take place at the bureau level in order to encourage individual museums and offices to pursue support for their programs directly.

The central Office of Membership and Development will retain responsibility for pan-Institutional and multi-bureau projects, for research and record-keeping, and for assisting those bureaus without separate fundraising staff. The Office will continue to coordinate development activities across the Institution, in line with the new, more decentralized procedures. The Office will work with the new Development Committee, which is charged with setting development priorities and addressing other related issues. Growth in the Office should occur in the research staff.

The Office has detailed several staff members to the National Museum of African Art to conduct a capital campaign for that bureau which is expected to last about four years.

Smithsonian Magazine. Although the magazine's management is justifiably cautious about the ebb and flow of fashion in publishing, it also expects that the demand for its product will remain strong, with an annual financial surplus estimated at \$11,000,000 to \$16,000,000 over the next few years. It is primarily from these funds that the Board of Regents has been able to budget for the approved Regent's program for acquisitions, scholarly studies, educational outreach projects, and major exhibitions;

to fund certain expenses previously met with federal appropriations; and to set aside sums each year for the enhancement of the Institution's endowment. The magazine will continue to produce a high quality product, supported entirely by the trust revenues which it generates. New growth in subscribers is expected to average 25,000 a year from the present level of about 2,300,000. If required because of inflationary cost increases associated with production and mailing, subscription rates may increase in future years.

Air and Space Magazine. The magazine explores the realm of human endeavor in flight and in exploration, science, and research within the atmosphere and beyond. Membership benefits, similar to those of the National Associates, are offered. The magazine will be published six times a year. Operating losses are projected for the initial two years of publication over FY 1986-87 (amounting to about \$2.9 million); these are expected to be recovered sometime in FY 1990-91, after which the magazine is expected to produce a net gain of \$1 million or \$ 2 million a year.

With continued good performance by Associate Programs, revenues should increase from the current level of about \$88,000,000 to \$142,000,000 in FY 1992, with net income from these activities projected at approximately \$21,000,000. Detailed expense projections appear in Appendix I.

BUSINESS MANAGEMENT ACTIVITIES

This section covers plans, anticipated changes, and resource estimates for selected auxiliary activities conducted under the auspices of the Business Management Office. These revenue producing activities include the Museum Shops, Mail Order Division, Concessions, Parking, and Product Development and Licensing operations. The revenue producing activities of the Smithsonian magazine, Air and Space magazine, Smithsonian Press, and Traveling Exhibition Service are separate from the Business Management Office, and are presented in appropriate chapters and tables corresponding to the organization of the Institution and the FY 1988 budget submission.

The operations described in this section, like the Institution's Associate Programs, are an effort to offer the public a diverse range of services, to make the Smithsonian more accessible, and to enhance the educational experiences generated by exhibitions and other activities.

Current and Projected Resources

In FY 1986, these trust-funded operations had revenues totaling some \$42,000,000 and 315 employees. As a group they generated \$7,500,000 in unrestricted net income for the Institution after cost of sales, payroll, and other operating expenses. By FY 1992, gross income from these activities is expected to increase by about \$17,000,000 with a net gain of approximately \$8,000,000 being made available for application to various activities and programs of the Institution.

<u>Full-Time Employment</u>		Unrestricted Funds (\$000s)	
<u>FY 1986</u>	<u>FY 1992</u>	<u>FY 1986</u>	<u>FY 1992</u>

INCOME:

Business Management Ofc.		\$ 494	\$ 805
Museum Shops		19,633	26,700
Mail Order Division		19,395	29,100
Concessions		1,562	3,030
Parking		1,099	—
Total		\$42,183	\$59,635

EXPENSES:

Business Management Ofc.	8	8	\$ 732	\$ 910
Museum Shops	215	260	17,230	24,100
Mail Order Division	75	102	15,722	24,100
Concessions	1	1	370	2,655
Parking	16		571	—
Total	315	371	\$34,625	\$51,765

NET GAIN		\$ 7,558	\$ 7,870
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Business Management Office. In addition to the administration of the business activities listed below, this office is responsible for the product development and licensing program which makes reproductions and other products closely related to the Smithsonian collections available for purchase by individuals throughout the country, through licensing agreements with various manufacturers. Increased activity is projected.

Museum Shops. The Smithsonian has provided sales desks since the 1860s, but substantial sales results are a recent development. Centrally managed museum shops are located in the Museum of American History, the Museum of Natural History, the Arts and Industries Building, the Air and Space Museum, the Hirshhorn Museum and Sculpture Garden, the Museum of American Art, the Portrait Gallery, the Renwick Gallery, and the Museum of African Art in the Quadrangle beginning in FY 1987.

Items offered for sale in the museum shops are selected to meet special requirements. Each item must relate to the collections, be appropriate to the museum where sold, and conform to high standards of quality and taste. Catalogues and other publications derived from exhibition themes and subjects, including works by Smithsonian scholars, are important to the museum shops. Other items include reproductions of artifacts, craft products, and educational games and toys for children.

Mail Order Division. Formed in 1975, the Mail Order Division produces several catalogues each year. These catalogues are sent to Associates and offer special items selected to reflect Smithsonian collections and programs. High standards of quality, taste, and educational value are maintained. Over 300,000 catalogue orders are processed annually through the Division's receiving and shipping center in Springfield, Virginia.

Concessions. Through concession arrangements, the Institution provides visitors with restaurant facilities and recorded tour rental systems in the major Smithsonian museums. An old-fashioned ice cream parlor is also operated by a concessionaire in the Museum of American History. Other concessions include the popular carousel and popcorn wagons on the Mall during the spring and summer and the shop, restaurant, and parking facilities at the Zoo.

Parking. The majority of parking revenues were generated by the parking garage located under the Air and Space Museum. The lot was closed to the public in late FY 1986. The Institution's overall public parking program has been terminated and revenues are not expected for future years.

Future Year Prospects

Over the period from FY 1986 to FY 1992, the primary focus in the Business Management activities will be on improving the quality of goods and services offered to the public as well as the operational efficiency of the business activities. Expanded program activity will be associated primarily with the opening of new museum shop facilities in the Quadrangle replacing the existing shop of the National Museum of African Art; the

renovation and expansion of existing facilities in the National Museum of Natural History and the National Air and Space Museum; and increased efforts in product development and licensing. New food service contracts are being implemented. The addition of a new restaurant facility at the National Air and Space Museum, using trust support, should be completed in FY 1989. Planned renovations to other existing food services facilities will increase revenues and improve service to both employees and museum visitors. As in the past, high standards for the quality and value of goods and services will be maintained. Detailed projections appear in Appendix I.

ADMINISTRATIVE, FINANCIAL, AND OTHER SUPPORT SERVICES

Organization units described in this chapter include central management functions provided by the offices of the Secretary, Under Secretary, Assistant Secretary for Administration, General Counsel, Treasurer, Congressional Liaison, and Director of Facilities Services. They also include the following specialized administrative and technical offices: Accounting and Financial Planning, Audits and Investigations, Contracts, Equal Opportunity, Risk Management, Information Resource Management, Management Analysis, Personnel Administration, Printing and Photographic Services, Programming and Budget, Special Events, Procurement and Property Management and Travel Services.

The facilities services offices are included under this chapter: Design and Construction; Plant Services; Protection, with primary orientation to the physical plant and its contents; Environmental Management and Safety which provide safety and health services to visitors and staff; and the staff services which provide architectural and historical research support on the Institution's buildings, along with collections management for the Castle Building and its collection of antique furnishings. To be consistent with budget presentations, resources associated with the Office of Horticulture, South Group Building Management, and Quadrangle Building Management are included in the tables of this chapter as part of physical plant services.

These central administrative, financial, technical and other support services provide overall planning, policy determination, direction, and leadership to the Institution; management of its resources; and evaluation of its work. These units furnish legal counsel; financial management; and other administrative, professional, and technical services required to support the Smithsonian's programs; to maintain, operate, and protect its physical plant; to perform environmental, health and safety services; and to assure that the Institution complies with all appropriate laws and regulations and is fully accountable for its actions.

Current and Projected Resources

These organization units had FY 1986 resources totaling about \$74,000,000 (including about \$16,000,000 for utility, communications, and rental costs) and 1,558 full-time employees. Of this total, approximately \$62,000,000 and 1,329 full-time employees are provided from appropriated funds and \$12,000,000 and 229 employees are allocated within the Institution's nonappropriated trust fund budget. A breakdown of resources (before application of overhead recovery) follows for FY 1986 and projected FY 1992.

<u>Subgroups</u>	<u>FY 1986</u>		<u>FY 1992</u>	
	<u>FTE</u>	<u>Funds (\$000s)</u>	<u>FTE</u>	<u>Funds (\$000s)</u>
Central Management Offices				
Federal S&E	33	\$ 1,653	38	\$ 2,040
Trust Funds	18	636	18	2,203
Specialized Administrative and Technical Offices				
Federal S&E	215	\$10,939	271	\$ 14,961
Trust Funds	188	9,102	192	12,013
Facilities Offices				
Federal S&E	1,081	\$49,288	1,364	70,473
Trust Funds	23	2,212	25	2,715
Total	1,558	\$73,830	1,908	\$104,405

Unrestricted trust funds are allotted to the management and support units to achieve an appropriate balance of federal appropriation and trust fund support in these units since they serve the entire Institution. These funds are used primarily for personnel who perform assignments similar to those of staff paid from appropriated funds. Several support units administer unrestricted trust funds for more specialized purposes. The Office of Printing and Photographic Services receives income from the sale of photographic materials to the public. The computer center of the Office of Information Resource Management and the audiovisual unit of the Office of Plant Services operate on a cost recovery basis by charging users for the services provided.

Future Year Prospectus

Projections of additional federal increases over the period are minimal and restricted to high priority needs; in addition some amounts will be needed to cover uncontrollable expenses such as necessary pay and inflation. The projections contain requirements for increases to institutional rent, utilities, and communications.

Major emphases of the central administrative and technical offices over the planning period include the following. A new personnel/payroll management system using the services of the Department of Agriculture's National Finance Center will become fully operational by FY 1988 and will provide increased control and information accessibility. Improvements to personnel services and controls will be implemented through better tracking and follow-up on actions, development of processing standards, communications with bureaus and offices and safeguarding of data and files. Information on the Institution's equal opportunity and affirmative action program will be consolidated and issued for internal planning and guidance purposes. As a companion effort new accounting systems are under development in a well-coordinated effort involving the financial management and planning, accounting, procurement and budget offices. Initial emphasis is on the general ledger and accounts payable systems which are

expected to be available in FY 1988. Automated collections information and research support systems are receiving priority attention. Steps to improve and reduce the costs of personal computer and word processor maintenance will be taken. Strengthening of the planning and budgeting functions will take place by the combining of these functions and by increased attention to priority-setting and effective internal communications during the budget formulation and execution processes. Continued attention will be given through the work of audits and investigations, management analysis and legal counsel to the assessment of operations and to the correction of financial and management problems which may be determined to exist. Such activity will be overseen by the Board of Regents and its Audit and Review Committee.

In the facilities area, major management activities include the mechanical and security operations of the Quadrangle which will open to the public in late 1987 and the award and construction of the Air and Space Museum terrace restaurant to be built with trust funds during the period of 1987-1988. Organizational and budget priority are being given to strengthen the Institution's programs in the identification, handling and disposal of hazardous materials and in a wide-range of activities related to environmental management for the safety of employees and visitors. The Institution's proprietary alarm system in its buildings will become fully operational in FY 1988 which when coupled with the ongoing program of upgrading alarm and other security equipment and devices will result in substantially increased physical security for buildings and their contents. Over the planning period, shortages in security personnel will be corrected as budget resources permit. The conversion and elimination of nitrate film materials from Smithsonian collections for safety reasons will be completed. Special attention will be given to building condition surveys, the identification of space and facilities requirements and long-range facilities planning for the elimination of the backlog of deferred essential maintenance and repair of buildings and development of buildings to meet programmatic needs. Data processing will be widely applied in a coordinated fashion to the facilities offices to improve project management, reduce paper flow, cope with higher workloads and produce more effective communications among the support offices and with users.

Operating budget resources required to meet these priority objectives and to sustain adequate levels of operational support by the organizations in the administrative, financial, and other support category may approach \$104,000,000 in FY 1992 from the FY 1986 level of \$74,000,000. Detailed projections for centralized, specialized and technical, and facilities offices appear in Appendix I.

FACILITIES PLANNING, CONSTRUCTION, RESTORATION AND RENOVATION

The Smithsonian's responsibility for its museum buildings and other facilities requires a continuing program of repairs and maintenance (some of which is accomplished by staff with funds provided in operating budgets), renovations and restorations, and new construction. The objectives of this program are to provide appropriate, safe, and accessible facilities for research, education, and care of collections. Federal appropriations are the primary source of funds for this work, but, starting with the funding of the original Smithsonian Institution Building, other sources of funds have at various times become available for particular projects. Improvement of facilities to assure their long term operation is one of the Institution's highest priorities, and reflects the Institution's great concern for the condition of its buildings, many of which date back to the turn of the century. Many millions of dollars are required each year for their maintenance and preservation, as well as to assure compliance with safety codes.

Considerable progress has been made in determining the extent to which additional facility support is required. A number of critical projects have been completed and a number of other major projects have been started. These projects include periodic work such as roof replacement, terrace resurfacing and waterproofing, replacing heating and air conditioning equipment, fire detection and suppression improvements, etc. The current levels of funding fall far short of the minimum identified requirement of \$200 million to address the backlog of repair and restoration work on facilities. To remedy this situation, the Institution plans to increase funding requests for Restoration and Renovation of Building appropriations to \$25-\$35 million annually in order to continue the program of ongoing repairs and restoration of the buildings. In addition, establishment of a new account is being explored to fund major cyclical replacements of building systems and equipment at the end of life expectancy and structural renovations. Annual requirements in this category will range from \$5-\$10 million and will be used initially for urgently needed replacement of the heating, ventilating and air conditioning system of the Natural History Building and replacement of building systems and interior renovations of the Arts and Industries Building.

In construction, highest priority is the completion of the Quadrangle construction for which final funding was received in FY 1987. This chapter outlines new construction projects for the Tropical Research Institute, the Whipple Observatory, the Air and Space Museum, the Museum of Natural History, and Mall administrative support facilities. In addition, renovation of the General Post Office is described. No specific timetable is projected for these projects because of the current economic climate. This will give the Institution an opportunity for further planning, identification and resolution of issues, determination of realistic priorities and schedules and consideration of authorization requirements.

Redevelopment of the Zoological Park began in 1970, but several improvement and exhibition projects remain. About \$45 million of work



Model of the proposed Earl S. Tupper Research and Conference Center to be built at the Smithsonian Tropical Research Institute.

will be accomplished through FY 1987. A minimum of \$64 million will be required to complete work under the current master plan at Rock Creek and approximately \$12 million will be needed for planned development at the Conservation and Research Center at Front Royal. It is expected that increase funding levels will be required to meet ongoing repair requirements at both facilities.

Restoration and Renovation

The Restoration and Renovation of Buildings (R&R) account is used to fund building repairs, alterations, and improvements to Smithsonian facilities. Substantial annual funding is required in order to assure preservation and effective operation of the Institution's buildings; to provide a safe environment for visitors, staff, and collections; and to meet program objectives.

The Institution's buildings and facilities (other than the Zoo) consist of fourteen museums and galleries, including the Quadrangle now under construction, in Washington, D.C. and New York City housing research and collections management activities and a wide range of exhibitions in the fields of science, history, technology, and art. Also included are facilities at Suitland, Maryland, for the preservation and storage of collections, and display of air and spacecraft; centers for biological research, conservation, and education in Panama and on the Chesapeake Bay; and a center for astrophysics in Cambridge, Massachusetts and the Whipple Observatory on Mt. Hopkins near Tucson, Arizona.

A backlog in excess of \$100 million currently exists of identified essential repair and restoration projects required to keep the Smithsonian's buildings in good operational condition and to meet all safety and environmental codes. The emphasis throughout the planning period will be on implementing a planned program to identify more fully the present and future requirements of the Institution's buildings and to eliminate this backlog over time. A number of major problems need to be addressed, including installation of fire detection and suppression systems required to meet current codes, estimated in excess of \$20 million; and removal or containment of such dangerous substances as asbestos and PCBs, at an estimated total cost of over \$10 million; and replacement of deteriorated plazas estimated at more than \$3 million each.

Although funding for Restoration and Renovation projects has increased from several million dollars in the early 1970s to almost \$13 million in FY 1987, this level of annual funding is not sufficient to allow a significant gain on the backlog of requirements. Although most major projects need to be phased in order not to disrupt ongoing Smithsonian programs and activities, protracted phasing of projects just to accommodate the work within funding limitations significantly increases project costs over a number of years because of inflation and increased management requirements. The Institution plans to increase the level of funding for ongoing renovation and restoration work to \$25-\$35 million annually to bring this funding level closer to that required to resolve a number of urgent needs of the physical plant.

The following major projects are planned with the FY 1987 appropriation of \$12,828,000: completion of roof and facade repairs at the Arts and Industries building; continued implementation of the fire protection master plan for the Natural History building; continued removal or encapsulation of asbestos located in several Smithsonian buildings; continued implementation of a coordinated plan at the American History building for improvements to the heating, ventilating and air conditioning and fire protection systems, replacement of roof and windows, and modifications to exhibition spaces; the initiation of a project to eliminate PCB filled transformers from Smithsonian buildings as required by a 1985 EPA regulation; installation of a master raceway for communications systems between the Mall museums; and creation of additional storage space beneath the courtyard of the Freer Gallery of Art.

The FY 1988 R&R appropriation request of \$14,254,000 will allow continuation of these and other presently known work requirements. The Institution is currently reviewing specific projects for scheduling in future years to meet the most urgent requirements of the physical plant. Categories of project work are described in the following paragraphs.

General Repairs and Improvements. These projects do not lend themselves to discrete categorization, or are minor emergency repairs, such as equipment failures or structural defects that cannot be anticipated and that arise from heavy visitor use, extreme weather conditions, or other circumstances. Examples of projects in this category are interior repairs to floors, ceilings, partitions, doors and building hardware; repairs to roads, walkways and docks; and elevator and escalator repairs.

Facade, Roof and Terrace Repairs. Maintaining the integrity of the exteriors of all Smithsonian buildings is critical to preventing major structural damage and deterioration due to age and weathering, and to ensuring a safe environment for visitors, staff, and collections. Energy conservation also demands weather tight exteriors. Work in this category includes a variety of major projects, such as roof replacement, repointing and recaulking facades, plaza resurfacing, exterior painting, and window repairs.

Work is continuing on the renovation of the exterior the Arts and Industries building. Completion of the roof replacement, repointing of the masonry facade, extensive window replacement, and replacement of gutters and downspouts is expected in late 1987. Funds of about \$13 million appropriated from FY 1981 through FY 1987 are being used to continue exterior restoration on a Building quadrant-by-quadrant basis.

Work is complete on the renovation of the facade of the 120 year old Renwick Gallery building. The Institution received approval from the Commission of Fine Arts and the Joint Committee on Landmarks for the use of precast concrete in lieu of natural stone to assure that the repairs will provide a permanent solution to the problem while maintaining sensitivity to the building's status as a National Historic Landmark. The amount of about \$6 million appropriated through FY 1985 was used to complete this project.

Additional projects for the next few years include replacement of terraces at the Air and Space Museum and the Hirshhorn Museum; facade repairs at the Air and Space Museum; roof repairs at the Renwick Gallery, Natural History Museum, the Carnegie Mansion and at the Tropical Research Institute; and facade repairs and window replacement at the Smithsonian Institution building.

Fire Detection and Suppression System. The Institution is continuing to develop and implement plans for upgrading fire protection systems in all buildings in order to provide a level of safety consistent with today's standards and technology. Work in this category includes such items as the installation of heat and smoke detection systems, sprinkler and chemical suppression systems, and fire doors and walls. Improved systems are installed as exhibitions are changed, and fire retardant materials are used wherever possible.

The implementation of comprehensive fire protection master plans is in progress at both the Museum of Natural History, the Museum of American History and the Air and Space Museum. Construction includes the installation of upgraded sprinkler systems, new smoke detection systems, fire pumps, generators and control panels, and architectural modifications to create more efficient fire zones. Fire protection projects planned for the next five years include the installation of fire zones and additional sprinklers in the Smithsonian Institution building, the Hirshhorn Museum and the American Art and Portrait Gallery building.

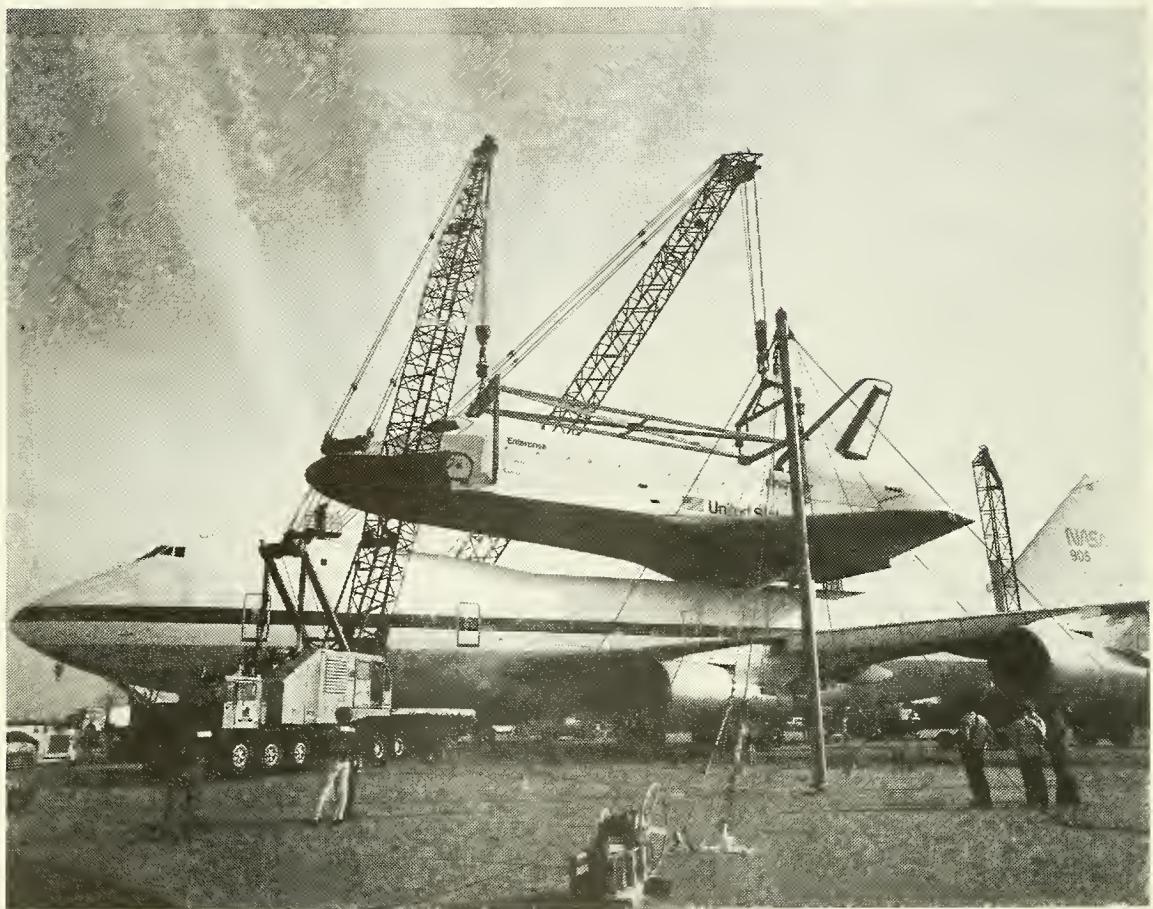
Access for the Disabled, Safety and Security, and Correction of Hazardous Conditions. Substantial progress has been achieved in eliminating architectural barriers at Smithsonian buildings. Several Smithsonian facilities still require additional modifications to meet recently updated standards for disabled person access. These projects are scheduled to be accomplished during this planning period.

The elimination of exposed asbestos insulation located in several buildings continues to be a high priority and funding will continue to be required for the correction of this problem through the planning period.

Other projects planned include replacement of tile in the Great Hall of the American Art and Portrait Gallery building; emergency door replacement at the Air and Space Museum; modification for disabled access at the American History building; and security lighting on the Mall.

Utility Systems Repairs and Improvements. Funds appropriated in this category are used to maintain, repair and upgrade the heating, ventilating and air conditioning systems (HVAC) and other building support systems in the Institution's facilities.

HVAC and related energy conservation improvements are under way as part of the master coordination plan at the American History building. HVAC repairs and improvements will also be required at the Hirshhorn, the Renwick Gallery, the Cooper-Hewitt Museum, and the Air and Space Museum, and a utility system study and energy audit will be conducted and implemented at the Smithsonian building.



In 1985, the National Air and Space Museum acquired the Space Shuttle Enterprise as part of its growing collection of large aircraft and spacecraft. This acquisition emphasized the need for a museum extension at Dulles International Airport to accommodate not only the many large artifacts, but to provide an additional outlet for the crowds visiting the downtown museum.

In response to the increasing need for automation of Smithsonian offices and for access to data base management systems, as well as projected uses in the near future of additional computer and electronic services for research, collections management, education, and exhibition purposes, the Institution has developed a plan to interconnect the systems through a common communications pathway or master raceway system. Installation of such an interconnecting system will significantly reduce the costs of independently connecting individual systems as they are needed for various purposes, and will also provide a higher degree of interaction among the different kinds of systems, including data and word processing, collections management and research systems, sensing systems for energy management, an expanded telephone system, telexes and facsimile machines, and video systems for exhibits and educational purposes. The Institution received \$250,000 in FY 1986 and \$160,000 in FY 1987 to begin installing a raceway system within and between eight buildings in the Mall area which will accommodate electronic requirements anticipated over the next ten years. The amount of \$500,000 requested in FY 1988 will be used to install an interbuilding cabling plant. Additional amounts are expected to be sought through FY 1992 in order to extend the raceway into each of the eight buildings and to work stations, offices or exhibit areas.

A July 1985 regulation issued by the Environmental Protection Agency requires replacement of all high-voltage electrical transformers containing cancer causing chemicals known as PCBs by the year 1990. The Institution has fifty-nine of these transformers in various buildings and all but two transformers will be replaced with an amount of \$3.7 million requested in FY 1987 and FY 1988. The two remaining transformers, which because of their age and inaccessible location in the Air and Space Museum would be difficult and costly to replace, are being drained and flushed to remove the PCB liquid and refilled with a non-harmful liquid. At the end of this "retrofilling" process the PCB content of these transformers will have been reduced to a level that under new EPA regulations will no longer classify them as PCB transformers.

Other Projects: Included in this category are space modifications and renovations to accommodate changing program requirements, sometimes in conjunction with other construction activities that offer improved office and collections storage space conditions. Renovations are projected during the planning period at the Museum of American History, the Museum of Natural History, and the Arts and Industries and Smithsonian buildings, to take advantage of additional space available for program use by reduction of space needed for utility and mechanical systems and the expansion of program activities into new facilities such as the Museum Support Center and the Quadrangle. Also included in this category are projects at Suitland to modify metal storage buildings for collections management purposes; construction of a dormitory at the Whipple Observatory, an instrument shop at the Environmental Research Center on the Chesapeake Bay, and a new road and docking facilities at the Tropical Research Institute in Panama. Advanced planning funds will be requested to enable the Smithsonian to prepare better cost estimates for future renovation and restoration projects and to reduce the effects of inflation on construction costs by providing design capability for major projects prior to receipt of project construction appropriations. A combined master plan for all Smithsonian facilities will identify and analyze

present and future facility requirements and will assist in the development of a comprehensive long range plan to meet these needs.

Major Capital Renewal Program

The Institution is considering establishment of a new program to deal with major cyclical replacement and refurbishment projects and to catch up with the outstanding backlog of repairs that threatens to undermine the structural integrity of the National Landmarks under the Smithsonian's care.

In the life of every building there comes a time when replacement of building systems or components is necessary. Despite the best of care, HVAC systems, for example, reach an age when no amount of repair can keep the machinery running efficiently and economically. Electrical and plumbing systems must be overhauled periodically to replace deteriorated equipment, wires and pipes. These cyclical replacement or renewal requirements make up a substantial portion of the currently estimated \$200 million backlog of essential maintenance and repair projects throughout Smithsonian buildings, and this backlog has not yet been completely defined.

Annual funding levels in the Restoration and Renovation of Buildings program, even if raised to \$25-\$35 million, are not sufficient to accommodate the work required. Some of this work is in fact more urgent today because inadequate funding levels have prohibited the timely repair or replacement of building systems and components in the past. In order to catch up with requirements without falling behind in other areas, both sources of funding are needed. Adequate funding levels for preventive maintenance and minor repair program will also be required in the Salaries and Expenses appropriation and resources will be sought in these areas during the planning period.

Initial requirements in this program include replacement of the HVAC system at the National Museum of Natural History, and major renovations and equipment replacements at the Arts and Industries and Smithsonian Institution buildings. Further analysis of the condition of the Smithsonian's older buildings are expected to add to this list. A detailed plan and schedule for the replacement of the twenty three year old HVAC system at the Natural History building has been developed. With a total cost in excess of \$100 million, the plan calls for work phased over fourteen years in order to avoid major disruption of programs and activities or closing of the Museum. The estimate also provides for interim replacement of equipment not expected to last through the construction period. Funds will be requested for this work beginning in FY 1989.

Plans for the Arts and Industries building and other facilities requiring major renewal will be developed throughout the planning period. Projects proposed for the Major Capital Renewal Program will be submitted to Congress for authorization, according to the wishes of the Appropriation Subcommittee expressed in the FY 1987 budget report.

ConstructionScience Facilities Development

Legislation was recently passed by Congress authorizing planning and construction for development of research facilities at the Fred L. Whipple Observatory in Arizona and the Tropical Research Institute in Panama. The Smithsonian's current research objectives include a coordinated effort to improve science facilities commensurate with the Institution's longer range scientific expectations. A description of the construction projects at these locations follows:

Tropical Research Institute

The Smithsonian Tropical Research Institute (STRI), located in the Republic of Panama, is the principal U.S. center for tropical biology. Each year hundreds of U.S. and international researchers join the permanent STRI staff in undertaking fundamental studies on the tropics. Increasingly scientists and policymakers have recognized the need to understand how tropical ecosystems function in order to predict more accurately environmental changes in the temperate zones.

To capitalize on STRI's unparalleled data base of more than sixty years, and to improve existing deficiencies to the physical plant, it is necessary to undertake the facilities improvements outlined below. A Master Plan was completed recently by a major architectural/engineering firm to assist in guiding this program.

Existing STRI facilities include buildings constructed in the 1920s and 1930s and renovated structures obtained from the U.S. military and other agencies. With the exception of a new library building opened in 1984, these facilities are inadequate because of age, size, safety, and health standards. Construction materials used in the first half of the century are inappropriate to the region's high humidity and insect infestation, and renovation of surplus buildings has served only as a stop-gap measure to ensure continuity of research. The structures are inadequate for modern scientific purposes and require extensive maintenance.

The most pressing need for STRI is a new terrestrial laboratory to replace a small and obsolete leased structure at Ancon. Originally built as a hospital morgue, the facility does not adequately support current research purposes. It has severe deficiencies in its electrical systems, plumbing, load-bearing capacity, and parking. Furthermore, its hillside location makes extensive renovation and the addition of outdoor cages and plant-growing facilities impossible.

With Federal funds of \$2.8 million received in FY 1987 and a gift of \$4 million received from the family of the late Earl S. Tupper, a new laboratory will be built at the headquarters site. This new terrestrial laboratory will allow proper space utilization for permanent staff, long-term visitors, and students. Better integration of computers, other communications devices, and modern scientific equipment will be afforded in the new facility, as will space for cages, greenhouses, lectures, small

meetings, and major conferences. Ground breaking is expected during the winter of 1987.

Barro Colorado Island, located in the middle of Gatun Lake, a key component of the Panama Canal, has served as an important research center for tropical biology since 1923. Under the Canal treaties, STRI was assigned custodianship of the 12,000 acre Barro Colorado Island Nature Monument on behalf of the U.S. and the Republic of Panama. The island, at the center of the reserve, serves hundreds of investigators annually, providing research space as well as living and dining accommodations. Its physical plant includes many outdated wooden buildings which do not meet modern day building or health codes. Using Restoration and Renovation monies in FY 1988, the Smithsonian will be making some improvements to the basic electrical, water, and sewage systems. The major requirement now is a new scientific laboratory with attendant cages and growing facilities. An amount of \$2.9 million (in FY 1989 dollars) will be required for design and construction of new laboratory facilities at Barro Colorado Island.

The geographical advantages of Panama to researchers interested in marine studies are incomparable: nowhere else in the world are two oceans so easily accessible for comparative research. Currently, renovated facilities are available on the Pacific, but no similar situation exists on the Atlantic. STRI research there is conducted at Galeta Point in a small aluminum building acquired as surplus property from the U.S. Navy in 1965. The present laboratory has a severe asbestos problem in its walls and roof. Housing for researchers consists of a dilapidated trailer which does not meet safety and health codes; and an inadequate sewage disposal system threatens the unique coral reef/mangrove swamp study site. A new laboratory, dormitory, and sewage system located at Galeta or a more appropriate Atlantic site will be required. It is expected that an amount of \$3.5 million will be requested in a future year to design and construct these facilities.

STRI is responsible for more than sixty vehicles, a major research vessel, and dozens of small boats, in addition to normal building maintenance. At present the maintenance needs of its geographically dispersed facilities are performed in the bottom of an old torpedo factory; the top floor houses research offices. In order to provide for adequate maintenance, to relieve the noise and congestion of the present site, and to increase physical proximity to suppliers, as well as to buildings and equipment to be repaired, a new central facility with modern equipment is required. Design and construction of a new workshop and maintenance facility is estimated at \$1,300,000 (in FY 1989 dollars).

Whipple Observatory

Development of base camp facilities at the Whipple Observatory near Tucson, Arizona is required to support expanded research activities associated with the installation of the Multiple Mirror Telescope. The Observatory is located on a 4,744-acre site on Mount Hopkins which is controlled by the U.S. Forest Service and reached by a limited-access road that originates at the observatory administrative headquarters location in Amado, Arizona.

The present administrative and support facilities of the Observatory, which serve all mountain-top activities, are located in an office and maintenance complex west of the Santa Cruz River, 18 miles from the scientific operations on Mount Hopkins. This base camp is the operational and logistical headquarters for anyone working at or visiting the mountain. Its site consists of two adjacent leased parcels of land totalling approximately 4.25 acres; its facilities include a one-level school building and a one-level residence which have been converted for office use. There are also vehicle service, repair, and storage sheds on the site.

The owner of one of the two presently leased parcels has indicated a desire to sell the property in the near future. The site was the primary focus of P.L.98-73, approved August 11, 1983, which authorized appropriations of \$150,000 for the Institution to purchase land in Santa Cruz County, Arizona for a base camp. Almost immediately after enactment of the measure it became clear that the purchase price of the property would exceed the authorization. More significant, however, were the rains that fell in October 1983 and the immensely destructive flooding of the normally dry river that ensued. The bridge between the base camp and the mountain facilities was washed out, making access very difficult and adding two hours to the already arduous round trip to and from the summit. In view of these circumstances, the Smithsonian is no longer a prospective buyer of the existing parcels.

Recently the Smithsonian completed the first phase of a master planning process to locate a more appropriate site for a base camp and to make efficient use of the space available. After a thorough review the Institution has selected as its first choice a site under the control of the Forest Service, closer to the mountain than the existing one, and east of the Santa Cruz River. An environmental analysis of the potential sites has been completed for the U.S. Forest Service and is awaiting public comment. It is anticipated that a final approval of the site from the Forest Service will be received in the late winter of 1987.

The second and final phase of the master planning process includes spatial analyses of the site, plans for its development, related environmental documentation, and refined estimates of the cost. Two alternative sites under the control of the State of Arizona are in the same general area; they will be investigated as back-up sites in case the Forest Service land proves to be unavailable.

The Institution is requesting about \$4.5 million in FY 1988 for design and construction of a new base camp for the Observatory. The proposed base camp will consist of administrative offices and a visitor center, a motor pool and warehouse facility. Administrative office space will provide for purchasing, fiscal, engineering, secretarial, and public information activities. A small visitor center will offer displays and briefings about the activities being conducted at the Observatory. The motor pool facility will support more than 60 vehicles, including buses and heavy machinery used for road maintenance. Enclosed motor maintenance shops are required because of weather extremes, and space is needed for spare parts storage. A warehouse is also required for the secure storage of goods and equipment going to and from the Observatory. A major element

of the proposed project is the construction of a 4 mile all-weather road from a new reliable bridge crossing the Santa Cruz River at Canoa Road, near Interstate 19. This new stretch of road will link up with the existing Amado Road to the base camp. Further improvements on a 3 mile section of Amado Road will also be included, to provide the necessary access to the new base camp and Mt. Hopkins.

Air and Space Museum

Restaurant

The restaurant facility currently in operation at the National Air and Space Museum is inadequate to meet the needs of the large volume of visitors to the Museum. With only 350 seats, the problem is particularly acute during peak visitor season when daily attendance averages almost 30,000. During FY 1987, the Institution will begin construction of a new restaurant on the east terrace of the Museum. The new facility will seat 1200 customers at a time, with cafeteria style service on the main level and a smaller area on the mezzanine for sit down service. The building will be completely enclosed in a series of sloping glass panels forming a crystal pattern to its peak. It will appear detached from the Museum but will be connected by a glass enclosed walkway. Access will be provided directly from Jefferson Drive, Independence Avenue and 4th Street as well, with appropriate terraced landscaping to ease the transition to street level. The primary food preparation and delivery areas will be in the basement where loading dock facilities already exist. The estimated cost of approximately \$18 million including construction, furnishings, equipment and fees will be funded entirely from trust funds. Construction is expected to be complete in FY 1988.

Dulles Facility

Because of the size of air and space craft, it is uneconomical to provide collection storage space in the Mall building. Therefore, the Air and Space Museum has used temporary metal storage buildings at a 21 acre site at Suitland, Maryland acquired by the Institution for this purpose in the mid 1950s. Periodically since acquiring this facility, additional metal buildings have been constructed to a point now where both they and the site are filled to near capacity. Also, over the years, the Suitland area has been developed intensely, making transportation of large modern aircraft to the Air and Space facility, now known as the Paul E. Garber Facility, extremely difficult.

Over the past five years staff of the Air and Space Museum have evaluated potential locations at or near airports in the Washington region that could accommodate storage and exhibition structures to permit relocation of aircraft from the Garber Facility and receive by air transportation new objects such as the recently acquired space shuttle Enterprise and a promised Concorde. This search resulted in the selection by the Museum of Washington Dulles International Airport in Virginia. Preliminary and informal discussions with the Federal Aviation Administration indicate that sufficient underdeveloped acreage and general interest exists to warrant serious consideration of this location and further study and planning.

As funding for this project is not anticipated in the near future, the Federal Aviation Administration has agreed to allow the Institution to erect a prefabricated metal storage building over an existing concrete pad at Dulles to provide shelter for the shuttle Enterprise and three other donated aircraft currently stored at Dulles. The space shuttle, donated by the National Aeronautics and Space Administration in 1985, is presently exposed to the weather, and deterioration can be expected if it is not protected. The proposed building will not be open to the public. Construction will be funded from donated funds and is expected to be completed during FY 1987 at a total estimated cost of \$425,000. The building will continue in use as aircraft storage once the Dulles museum complex is built.

Natural History Building - West Court

The Institution has also recognized a need to expand food service and other facilities provided for the public at the Museum of Natural History. Attention has focused on the feasibility of expanding the West Court structure to increase the space available for food service, museum shop and educational activities of the Museum. It is proposed that the present roof over the West Court would be raised to the maximum height consistent with the roof line of the building and two new floors added. With rearrangement and renovation of the present space, a total of five floors would be available in a key position for public access. A space study is currently underway to begin planning the use of this space and to develop cost estimates and schedules for construction. It is anticipated that the expansion would be funded from trust funds.

General Post Office

Since 1958, when the Institution acquired the Patent Office building, it has been interested in obtaining the General Post Office building, which is immediately across F Street. Both buildings are the work of America's first native-born professional architect, Robert Mills of South Carolina, who also designed the Washington Monument and the Treasury building. The General Post Office (the fifth oldest Federal building in Washington, D.C.) is proposed to be used for expanded public activities of the National Museum of American Art, the National Portrait Gallery, and the Archives of American Art now housed in the Patent Office building. These landmark structures, connected by a tunnel under F Street, are expected to meet the needs of the three bureaus well into the next century.

Legislation has been enacted authorizing the transfer of the building to the Smithsonian without reimbursement, contingent on GSA securing suitable quality space for the relocation of the current occupant, the U.S. International Trade Commission. This relocation is scheduled for early FY 1988.

Preserving this historic landmark and converting it to public purposes will require a comprehensive program that must meet the special

requirements of museums for fire protection and climate control in order to preserve the collections with which they are entrusted, while also providing for the safety and accommodation of visitors. While funding to renovate the building for Smithsonian use cannot be expected in time to implement original plans and schedules, the Institution is exploring various options including some interim uses until such time as the full renovation can take place.

Administrative Service Center

The present concept of an in-town Smithsonian Service Center was developed in 1975 when a number of Institution support activities located at various leased buildings in Washington were consolidated in a single leased location at 1111 North Capitol Street to provide efficient support to museums and other bureaus located principally on the Mall. The current lease expires in the fall of 1992. During the term of the lease, the building was sold to a development firm. In discussions with principals of the firm, it has been made clear to Institution representatives that the objectives of the current owners include redevelopment of the property to a more remunerative use.

The Smithsonian plans to construct a replacement building for those activities now at 1111 North Capitol Street together with other central support activities now on the Mall which are expected to outgrow their present space or whose space may be required for museum programs. Presently, it is estimated that a Service Center of 250,000 gross square feet will be required at an estimated cost of \$30.2 million (in FY 1988 dollars) for site acquisition, design, and construction.

Construction Planning

A number of other specific facility requirements have been identified, such as collections storage for the National Museum of American History, the SI Libraries and the art museums. An essential part of an effective facilities development program is the ability to assess these major requirements and make long range plans in sufficient detail so that an accurate scope can be developed, estimates made of costs of construction and operation, and issues affecting the project identified and addressed before approval is sought from Congressional committees and review commissions.

An estimated amount of about \$1.4 million is required annually to support planning and conceptual study upon which to base precise scopes of work and construction estimates; establish operating and logistical support requirements; and make environmental impact assessments for projects included in this Prospectus. These funds will also permit identification and preliminary planning of projects beyond the five year period in order to develop a more definitive long range facilities development program.

Zoological Park and Conservation Research Center

This account is used at the National Zoological Park for repairs, alterations and improvements to the plant property, and for the construction of additions and minor new facilities including exhibits; to prepare plans and specifications for construction; and to perform renovations, restorations and new construction for implementing the Master Plan approved by the Commission of Fine Arts and the National Capital Planning Commission in FY 1973. The Zoo's facilities include 163 acres in the Rock Creek Valley of Washington, D.C., and a 3,150 acre Conservation and Research Center located in Front Royal, Virginia.

The Zoo has developed a five-year construction and improvement schedule for both the Rock Creek facility and the Conservation Center at Front Royal. The following paragraphs outline the projects anticipated over the planning period.

Zoological Park Redevelopment

Research Facility - With the construction of the new hospital facility at Rock Creek, the existing health and research facility will be renovated to house all research functions of the National Zoo. The renovation will correct several structural and mechanical deficiencies and will provide the Zoo with a first rate research facility including five environmentally controlled animal holding rooms; animal support areas; research support areas and staff offices. Renovation of the research facility is estimated to cost \$3.3 million.

Olmsted Walk - Restoration and construction of the Olmsted Walk was started in FY 1985 with emphasis given to preserving and enhancing the natural and historical character of the Park. Some exhibits along the Walk will be renovated to enhance the visitor's experience in viewing the animals. New surfacing materials for the Walk, adequate drainage, new landscaping, additional benches and drinking fountains, and improved graphics will be provided. These efforts will assist in unifying the exhibits and grounds and in providing a pleasant and educational experience at the National Zoo.

The first phase concentrated on the section of Olmsted Walk from the Rock Creek entry up to the Great Ape Facility. This phase established an identifiable pedestrian entrance at the Rock Creek side of the Zoo, providing visitors a proper orientation point at the beginning of their visits. The main walkway was modified to loop around in front of the reptile and monkey houses by constructing a winding walkway more in line with the spirit of the original Olmsted design. This section of the Olmsted Walk reopened to the public in April 1986. A new Gibbon Facility is being constructed and is scheduled to open in May 1987.

The second phase will renovate the opposite end of the Olmsted Walk beginning on Connecticut Avenue. At the entrance to the education building, a plaza will be created which will include an information kiosk. Walkways adjacent to the existing sable antelope, bongo, and dorcas gazelle exhibits will be modified to provide access to the plaza. This phase is scheduled to be completed in the spring of 1987.



Workman lays hexagonal pavers along Olmsted Walk, the main pedestrian path through the National Zoo. The renovation of this walk should be complete by 1989, in time for the Zoo's centennial. Photo by Jessie Cohen.



Young visitors play along newly-renovated Olmsted Walk. The "climbable" sculpture is set on paving material that reduces the risk of injury from falls. Photo by Jessie Cohen.

The third phase will modify the Walk from just past the education building to the Great Ape Facility. The Walk in this area will be renovated to provide the visitor with a better view of the surrounding exhibits. A third entry point to the Walk will be constructed in this phase. Approximately \$2.7 million is included in the FY 1988 budget request to complete the construction phase. Funds will be required in future years to complete the landscaping along the Olmsted Walk.

Aquatic Exhibits - Unlike the aquarium in Baltimore, the proposed aquatic habitat facility will include not only fishes but the full range of aquatic animals such as aquatic mammals, birds, reptiles and amphibians. Another essential difference is that the NZP will concentrate on freshwater animals while Baltimore concentrates on animals found in the marine ecosystem. Hence, the two facilities will be complementary rather than duplicative. Together with the invertebrate exhibit slated to open in late 1986, the proposed aquatic habitat facility fills the last gap in the Zoo's presentation to the public of representatives of all the major animal groups. To date emphasis has been placed almost exclusively on terrestrial animals in our natural world despite the fact that over sixty percent of the world's vertebrate animals are fishes. The animals proposed for exhibition will include those not heretofore exhibited in most zoos. The world of aquatic animals is little known to the public; hence the proposed exhibit provides an excellent opportunity to educate and entertain the general public on these engaging and important groups of animals.

The first phase, estimated at \$7 million will incorporate a tropical forest and stream displaying aquatic mammals with appropriate fish, invertebrates, birds and amphibians, as well as vegetation. An amount of \$13,000,000 is estimated to complete the design and construction of the facility; prospects for raising private funds in lieu of appropriations are under review.

For over a decade the Institution has presented the requirement for a centralized parking facility at Rock Creek. Such a facility would allow the return of several surface parking areas to animal exhibition spaces and also increase green space around the central exhibition area of the Park. The areas freed of present use as car parks are the only flat areas remaining at the Park for exhibit use. The proposed parking garage would include approximately 1,100 spaces compared to the existing 250 spaces on the site contiguous to the present General Services Building. A pedestrian walk and tunnel would be constructed to allow visitors unimpeded access to the central Zoo animal area. The estimated cost is \$17.5 million including design. At present, the project has relatively low priority and funds may not be sought for its implementation.

Grasslands and Forests Exhibits - These new exhibits are proposed for development during the coming decade. The exhibits are eco-geographic in their character and for planning purposes are broken into three distinct zones: American Grasslands, African Grasslands, and Forests. Total estimated cost for the exhibits is \$16.5 million.

The American Grasslands exhibit will be located in what is now Visiting Parking Lot B. The exhibit will be subdivided into the major

habitats, the North American Prairies and the South American Grassland. The two exhibits will be separated by a planted berm which will conceal the service yard and holding buildings from the two exhibits. Species planned for the Prairie exhibit include bison, coyote, sandhill crane, prairie dog and gopher snake. Species scheduled for the Grassland exhibit include mara, giant anteater, capybara, maned wolf, rhea and guanaco.

The African Grassland exhibit will also be subdivided into two major habitats, the African Savannah Grassland and the African Desert Grassland. The exhibits will be located where the Hardy Hoofed Stock exhibits and bus staging area now exist. The trails in the two subdivisions will include screening and specimen plantings to create the illusion of being in Africa. Animal species such as zebra, ostrich, wildebeest, flamingo, spotted hyena, blesbok, gerenuk and dwarf mongoose. A nocturnal exhibit will include species such as gorilla, aardvark, fennec fox, cobra, and insects. Species planned for the desert exhibit include gazelle, crowned crane, meerkat, duiker, and klipspringer.

The Forest exhibit will be located on the hilly terrain east of the Connecticut Avenue entrance to the Zoo. The exhibit will be subdivided into three major habitats: West African Forest, Southeast Asia Forest, and the Sulawesi Forest. Species planned for the exhibits include mandrill, leopard, bongo, Eld's deer, tapir, muntjac, anoa and babirusa.

Renovation and Repairs - In addition to the redevelopment Master Plan, the Zoological Park is responsible for a continuing program of major maintenance and repair of its real property (buildings, grounds, utilities, and equipment). The Zoo has sixty separate structures of which eighteen are major buildings. The current plant value is over \$100 million and \$1.6 million to \$2 million will be required annually for structural, mechanical, and electrical repairs and renovation of the physical plant to support the Zoo's mission at a satisfactory level.

Conservation and Research Center

Pachyderm Facility - This project will provide a facility to house large hoofed stock for research and breeding. The site chosen is well suited for this purpose and will not be labor intensive with respect to support requirements. The facility will permit the Zoo to pursue actively the breeding programs for such critically endangered groups as rhinoceroses and tapirs. Amounts of \$400,000 for design and \$4,000,000 for construction will be requested in future years.

Water System and Hydrants - Worn and deteriorated water lines throughout the facility must be replaced and hydrants upgraded to meet fire and safety protection standards. This project is estimated at about \$660,000.

Maintenance Facility - The maintenance trade shops that serve the Conservation and Research Center will be consolidated into one area for improved operations, security and accessibility. A group of supply buildings will be renovated and modified to serve this function, providing a separate service entrance and parking for the Center's motor pool operations and off-site employees. An amount of \$50,000 was provided for

the design in the FY 1985 appropriation and \$1 million is needed for construction. The space vacated by the present shops will be used to house student research activities.

Waterfowl Facility - The proposed waterfowl ponds at the Conservation and Research Center, presently estimated to cost \$1.1 million, will provide outdoor facilities for the study, propagation, and rearing of endangered waterfowl and crane species. At present the Center cannot engage in research and propagation of a variety of species that require year-round flat-water surface; consequently, the planned enclosures will include ponds that will be mechanically frost free or air-injected to prevent freezing in winter. Individual ponds will be enclosed with wire mesh fence and wire mesh ceilings. The location of the proposed complex will be the lowland area below the present hardy bird yard.

Road Improvements/Extensions - This project includes providing access to new facilities with existing roads, and extending paved roads to outlying animal facilities. The work is expected to cost about \$1.1 million.

Renovation and Repairs - The Conservation and Research Center includes eighty-nine facilities of various types, containing approximately 236,000 square feet of space, two and one-half miles of paved roads, twenty miles of jeep trails, thirty miles of fences, and all related utility systems (sewer, water, electricity). This account is used to complete necessary repairs to structural, mechanical, and electrical components of the Center's physical plant, and is estimated at about \$800,000 per year.

BEYOND FY 1992

There is merit to looking further ahead than just five years in communicating to OMB, Congress, and others the Institution's operating and capital objectives and in contemplating resource levels to match these. The Smithsonian must look ahead ten to fifteen years if it is to continue to be successful in meeting its responsibilities to the public, the museum and scholarly communities, and the nation. This chapter presents a brief summary of longer-range possibilities based on institutional aspirations for programs and facilities to about FY 2000.

Basic activities in exhibition, collections management, education and other programs, of course, will continue. Research programs will continue to be emphasized as will quality services for the visiting public and Associate members. New buildings, where necessary, and careful attention to those now under the care of the Institution, require longer-range thinking if results are to be useful to the public. The most effective use of available federal and trust resources in achieving general objectives will continue to motivate overall management planning. As the planning period is extended, however, it becomes increasingly difficult to detail the varied opportunities and related management choices which will emerge. Nevertheless, it is possible to set down institutional desires, directions, and resources which can be realized if conditions external to direct management control permit. In interpreting materials contained in this chapter, it is important to highlight the following.

- A generally favorable economic situation is assumed to prevail over time. The Administration is predicting that inflationary pressures on the nation's economy will continue at relatively low rates. For purposes of describing institutional plans beyond 1992, inflation is assumed to have only minimal influence.
- Levels of appropriations for capital and operating projects as outlined in the preceding chapters for years FY 1988-1992 will be forthcoming from the Executive and Legislative branches of government which will allow the Institution to achieve its basic program requirements.
- Visitation will remain strong.
- Public acceptance of the Institution's various programs and products, and supporting trust funds generated through investments, Associates and auxiliary activities will continue to allow net proceeds to grow moderately and to be applied to Smithsonian objectives as approved by its Board of Regents.

- . Future transfers to the Institution of historic buildings that might be preserved for Smithsonian use are possible, but the timing is not known. Likewise, it is not possible to speculate on the availability of major new gift collections that might require special housing for display or other purposes.

Given these general assumptions, Smithsonian management predicts continued success through the turn of the century in developing resources to serve the public and the nation through its varied programs.

Program Expectations

With regard to longer-run developments, the Institution's activities have always spanned national and international interests, but in future years its multinational character should begin to flourish in an even greater fashion.

The Quadrangle, opening in 1987, will provide the Institution with sufficient space to display its art collections of Near and Far Eastern and African cultures, and to strengthen its ties with Latin America. The roots of these cultures run deep, and the contributions to man's development from these areas have been and will continue to be pervasive forces in the world. The Quadrangle programs will promote international research and the continuing search for peace and understanding. Content of the Institution's longer-range exhibition programs, as in the past, will continue to focus on historical, cultural and scientific achievements, and be based on the latest findings and interpretations of the international community of historians and scientific investigators. Many exhibitions will reflect the interdependence of nations in pursuing essentially common cultural and humanistic goals in a world of finite natural resources.

The Institution expects to apply increasing emphasis to its research programs, including both collections based and non-collections based areas. The Institution will build on its considerable expertise such as basic taxonomy and systematics, monitoring the effects of long-term environmental change, examining the basic components of matter, studying the universe, and expanding knowledge of animal behavior. Research endeavors expected to be more thoroughly cultivated and developed include archaeometry, species conservation, propagation, and veterinary medicine, studies of biological diversity, and man-related disciplines. Emphasis also will be placed on biological and systematics research to understand the basic properties of nature. The rapid development of new techniques and fabrication of new instruments in the field of astrophysics now opens the possibility of constructing telescopes to see in regions previously limited by technology. The Astrophysical Observatory is particularly interested in submillimeter wave lengths, perhaps the "last frontier" for ground based astronomical observations, and in future years will be adding to the store of astronomical knowledge in this area. Increased attention will be paid to developing closer collaborative ties among Smithsonian units interested in the history of science and technology, and to the role which this area plays in other intellectual pursuits of the Institution. In the arts, efforts will increase to focus complementary research activities in art and culture. Completion of the Quadrangle facility will

pave the way for expanded research and public programs related to the arts of Africa and Asia, and the renovation and restoration of the Old General Post Office Building will provide additional impetus to the concept of a center for American art and culture at Gallery Place. Likewise, in the long run the planned expansion of the Cooper-Hewitt Museum will enable the fuller use of that Museum's decorative art and other collections and further development of public programs. The results of Institutional planning efforts, stemming from the period FY 1988-FY 1992 and including seminars, lectures, conferences, and exhibitions, will be coming to fruition as related to the subsequent publications and use of research data surrounding the Columbus Quincentenary.

Attention to basic aspects of managing collections will continue, as will collections expansion and refinement. Growth will be selective and acquisitions of quality and relevance to each museum's interests will be emphasized. As technology improves, new initiatives in conservation will be undertaken, and generally improved care and storage of the collections will be provided. New interpretations of America's history and culture will be reflected in thoughtful and sophisticated exhibitions based on our collections and selected borrowed objects. Some of these exhibitions will be made available to other museums, and those unable to visit Washington will be able to become acquainted with our museums and their collections through widely available traveling exhibitions and publications.

The Smithsonian will always have major responsibilities directed to the preservation and care of collections. Objects made by Man, or collected from nature, are the tangible products of our historically persistent struggles to comprehend and live with the environment, extend our mastery over it, improve our condition, and express our spiritual aspirations. The collection, interpretation, preservation, and transmission of knowledge related to natural collections and important objects is essential if this and future generations of people are to measure and understand the character of international cultural and natural change. The programs housed at the first Museum Support Center building will be fully operational by the mid-1990s. The facility and its programs were fundamentally conceived nearly two decades ago to provide space, laboratories, training areas, and equipment, all designed for the efficient storage, study, care and preservation of collections. In a visible fashion in future years, the Center and its operations represent the Institution's commitment to apply advanced research, conservation and preservation techniques to minimize the unavoidable toll of time on the products and discoveries of Man, and to allow them to be passed on as a resource for future research and exhibition.

Educational programs and services to the public, including classes, teaching materials, publications and other media activities, are expected to grow in number and variety. They will be produced and presented in a style and format which will be in keeping with the changes that will take place in the nation's classrooms, and in television and communications technologies. The activities of the fledgling National Science Resources Center should be established; institutional efforts to help revitalize the teaching of precollege science and mathematics through development of various tools and information dissemination processes should be bearing fruit.

Operational Funding

With regard to federal funding growth associated with operations, the Smithsonian expects to keep abreast of inflation; obtain the necessary resources to implement its programs being planned for the Quadrangle and Support Center; become involved in new research activities as described earlier; experience resource increases for collections care and acquisitions, exhibitions, education, and other program opportunities as they arise; and extend its influence as a facilitator of new ideas and concepts in national and international scholarly communities.

Levels of S&E operating resources through FY 1992 are projected in earlier chapters as approximating \$274,000,000 ^{1/}. Using a three to four percent annual growth figure to cover inflationary cost increases and limited growth in programs for the period FY 1992-2000, the Institution would be operating at an appropriation level approaching \$360,000,000 in FY 2000. This figure is conservative, but a realistic indication of what could happen.

As in federal operations, the basic approach regarding long-range trust prospects is a conservative one. Sustained moderate growth in the Institution's endowment is a high priority now and will continue to be throughout the foreseeable future. During FY 1975-1986, pursuant to the Board of Regents' policy of increasing the Institution's endowments, the market value of endowments in restricted and unrestricted areas grew from around \$42,000,000 to about \$181,000,000 as a result both of gifts and transfers to these funds, as well as sound investment. Assuming a comparable economic climate and sound investment choices, that performance should continue. It is planned that a prudent portion of the Institution's net revenues will continue to be added to the unrestricted endowment. Support for programs may be further enhanced in the future if the Institution is successful in its fund raising efforts.

Overall, by the turn of the century, if trust revenues are sufficient to offset the effects of inflation, the Institution hopes to be able to increase its net earnings from auxiliary and business-related activities to about \$50,000,000. The pattern of applying unrestricted net funds throughout future years to institutional operations is expected to be much the same as now: to enhance endowments; to fund Board of Regents' approved programs in research, fellowship, exhibition, and education areas; to enhance program activities with the museums and bureaus; and to support central institutional administrative requirements.

^{1/} Projected level of S&E program resources including inflation and future year legislated pay increases.

Grants and Contracts

Grants and contracts from the federal government have been a significant source of funds for Smithsonian contributions to scientific and cultural advances almost since the Institution's establishment. Government interest and support of the national basic research enterprise is expected to continue, and to nourish, through the grant and contract mechanisms, quality investigations into selected areas. The level of overall federal support to national research endeavors cannot be predicted with any certainty. The Institution, however, has distinguished itself in various research disciplines, and intends to continue to do so over the long run, partially through sustained grant and contract work received from the federal government, as well as its other sources of funding.

Buildings and Facilities

At the end of FY 1986, the Smithsonian occupied approximately 4,500,000 square feet of building space, owned or leased, for all purposes in facilities located in Washington and elsewhere. By FY 2000, if the Institution is successful in planning and accommodating its major space objectives, space available might approach 7,000,000 to 8,000,000 square feet. Implicit are the following general institutional objectives:

- Funding for added facilities for science programs at the Zoo, Astrophysical Observatory, Tropical Research Institute, and Air and Space Museum, will be forthcoming.
- Restoration of the Old General Post Office Building to accommodate the expansion of the Institution's programmatic space requirements.
- Consolidation of program, administrative, and support operations into Smithsonian-owned facilities on properties controlled by the Institution or the federal government, and minimum reliance on leased or rented locations.
- Continued phased development of the Suitland properties for controlled warehousing, preservation, conservation, and study of the collections of the Museum of American History, the Smithsonian Institution Libraries and the art museums.
- Acquisition of facilities convenient to the Mall to accommodate some museum activities, administrative office activities, and light industrial-type operations for technical, administrative and other support of museum operations.

Museum of American History and Other Collections Storage. Because storage space has long been exhausted at the Mall museum and in its temporary buildings at Suitland, the Museum of American History has documented both its immediate and long-term needs in the context of the Smithsonian's Master Planning effort. A museum space planning consultant was retained for the study, which was carried out during 1986, in

coordination with the Office of Design and Construction and the Master Plan at Suitland.

Apart from the space needed for modest growth and to relieve currently compressed and unsafe conditions, the Museum will need new space to substitute for the roughly 115,000 square feet in the temporary buildings at Suitland: these structures have been analyzed in the Smithsonian's site survey as having a life expectancy of no longer than 10 to 15 more years. Since half the NMAH collections, exclusive of stamps and coins, reside there it is essential to have facilities ready in the next 10 years in order to assure that the National collections have housing.

The Suitland location seems ideal for fulfilling this and many of the Institution's other consolidation and collection management objectives. The building recently opened at Suitland permits the Institution to meet many collections storage needs primarily in the natural history area, and to establish training and other conservation program space. A subsequent phase of development at Suitland would alleviate emerging collection storage pressures in the other bureaus. After 1992, as currently envisioned, the next development steps for the Suitland properties include an additional pod for the current building, a storage and laboratory building for the Museum of American History, the art functions, and a central facility for the libraries.

Zoological Park. Further development of the National Zoo beyond 1992 is dependent on future economic conditions. In this context, future year exhibitions and visitor services will be reevaluated to determine the most cost effective means to service the Zoo visitor and yet preserve the natural and historical character of the Park. The development plan for the Conservation and Research Center at Front Royal has reaffirmed past projections for modest facility development.

Other Science Facilities. Additional development of science facilities for the future will include improved research space for the Smithsonian Environmental Research Center at the Edgewater, Maryland site on Chesapeake Bay. The extent of these facilities, however, will not be on the scale formerly projected for the longer range requirements of the Institution.

There also is the long-term need for storage and preservation facilities for large air and space craft. The museum visitor of the next century will be as interested in the Space Shuttle as the scholar or visitor of 1985 is in the Kitty Hawk flyer. As detailed in the Facilities Planning Chapter, design and construction of hangar-like buildings at Washington Dulles International Airport are currently envisioned and could span the years to the end of the century.

Astrophysical Observatory. It is anticipated that in the long run the construction of a submillimeter telescope array will take place for the exploration of the last unknown frontier of astronomy. Such an array could make fundamental contributions to understanding star formations, galactic structures, quasars, and planets; technical research has begun at

the Smithsonian Astrophysical Observatory for eventual development of this array.

Cooper-Hewitt Museum. The Museum has experienced extraordinary growth both in the size of its collections and in the number of visitors. Renovation of the existing space in the Miller townhouse, as well as creation of new space, will be required to assure adequate storage and exhibition of collections and support educational activities of the Museum.

Anacostia Neighborhood Museum. During FY 1987, the Museum's administrative staff and exhibition space will be moved to the recently completed annex building adjacent to the present Exhibits Lab building at Fort Stanton Park. This move will allow the Institution to vacate leased property. At some point beyond FY 1992, consideration may be given to a new and larger museum building.

Administrative Office Building. The Institution now is reassessing its use of all Mall and leased space, including the effects on this space resulting from occupancy of the Museum Support Center and the Quadrangle. In expectation that only minimal reliance should be placed over the long run on leased space, the Institution needs to consider purchase or construction of office space near the Mall in order to reduce the longer-term budget effects of continued rental escalation. In 1972, space at L'Enfant Plaza cost about \$8.50 per square foot; it now costs about \$25 per foot. Assuming that a purchase or construction cost could be amortized over a 10 to 20 year period at yearly expense not exceeding current annual rental costs, then, rental funds could eventually be put to other program purposes.

Mall Site. The property bounded by Third Street, Maryland Avenue, Fourth Street, and Jefferson Drive has been reserved by Congress for the future public use of the Smithsonian (P.L. 94-74, approved August 8, 1975). There are currently no plans for development of this site, but the Institution will continue to consider potential use of the land for establishing a last major Smithsonian Mall museum. In the meantime, it is expected that the site will continue to be used for temporary exhibitions and other purposes by federal and other organizations.

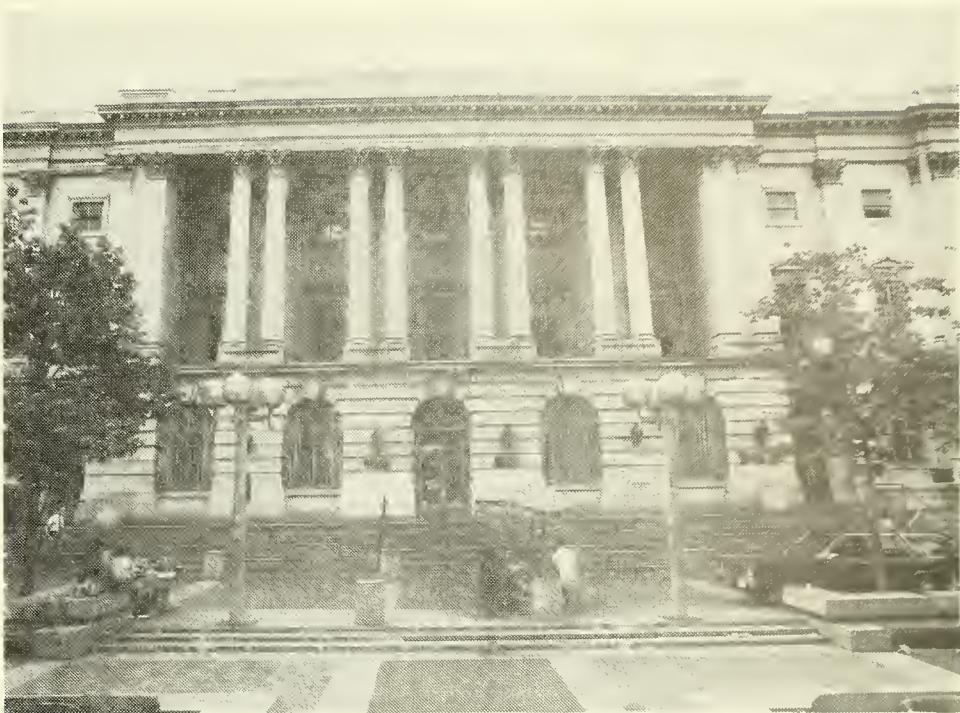
Maintenance and Improvements of Buildings. The Institution currently occupies many older buildings of cultural and historical importance to the nation, such as the headquarters Castle Building, the Arts and Industries Building, the Old Patent Office Building, the original Corcoran Art Building, and the Barney Studio House. As time passes, these buildings will continue to require added resources to assure their preservation and continued usefulness to the public and the Institution. In addition, many buildings of more recent construction will begin to require more attention.

At the present time, the Institution is devoting about \$13 million to \$14 million of federal funds annually to the renovation and restoration of its buildings, exclusive of utilities, custodial care, and basic maintenance provided through the operational budget. This amount is not adequate to address the major backlog of renovation requirements to

upgrade building systems and provide for normal yearly care. The Institution foresees a need to increase its renovation and restoration efforts to about \$35 million per year eventually in addition to annual levels of \$10 million for major capital renewal projects. Management will make periodic assessments of the adequacy of levels of funding from various sources and press for appropriate resource levels to take care of institutional maintenance, repair and renewal requirements. Beyond FY 1992, renovation, restoration, and modifications to existing space and systems in Mall and other buildings for exhibitions, research programs, access by the handicapped, fire, safety and health programs, energy conservation and the general preservation of historic facilities will continue to be among the highest priorities of the Smithsonian.

If improvements and additions to the Institution's physical plant occur, there will be, of course, related operating costs for necessary personnel, utilities, equipment and other items, expected to be funded largely through the federal appropriations process. While some operating and equipping needs have been estimated through FY 1992 for the Quadrangle, and facilities associated with the Zoological Park, the Tropical Research Institute, and the Whipple Observatory, it is too early to speculate about similar resources related to longer-range building possibilities. This will be done, however, as plans become firmer and as the time horizon shortens to the three-to-five-year period usually associated with legislative, appropriation, and construction cycles for physical plant additions.

As refinements are made to the Institution's long-range construction and operational aspirations, Congress, the Executive Branch, and other constituents will be kept fully informed through many means of communication, including the Prospectus.



Exterior view of the General Post Office Building from
7th and G Streets, N.W. Photo by Jeff Ploskonka.



Interior view of the General Post Office Building.
Photo by Jeff Ploskonka.

TABLE 3

QUADRANGLE:
ESTIMATED RESOURCES
ASSOCIATED WITH PROGRAM OCCUPANTS
AND SUPPORT OPERATIONS¹

(\$000)

<u>Activities</u>	<u>FY 1988</u>	<u>FY 1989</u>	<u>FY 1990</u>	<u>FY 1991</u>	<u>FY 1992</u>
Program Operations ²					
Federal	\$ 7,657	\$ 8,107	\$ 9,268	\$ 9,348	\$ 9,663
Trust	25,376	27,068	28,508	30,327	32,164
Support Operations ³					
Federal	3,461	3,526	3,577	3,577	3,577
Trust	-	-	-	-	-
Utilities	687	816	890	970	1050
Totals					
Federal	\$11,805	\$12,449	\$13,735	\$13,895	\$14,290
Trust	\$25,376	\$27,068	\$28,508	\$30,327	\$32,164
	\$37,181	\$39,517	\$42,243	\$44,222	\$46,454

¹This table is meant to provide an overview of operational resources associated with those program units that will be occupying the Quadrangle, plus building and ground maintenance, utilities, some support from central offices, and trust operations. Not included are Freer Gallery of Art operations.

²Program operations include the Museum of African Art, the Sackler Gallery (part of the Center for Asian Art, along with Freer Gallery) National and Resident Associate Programs, the Directorate of International Activities, and the Traveling Exhibition Service. Projections include about \$1 million additional appropriations over FY 1988 for Museum of African Art and Sackler Gallery programs; and about \$1 million appropriations for support of Columbian Quincentennial programs coordinated by the Directorate of International Activities.

³Support operations, for purposes of this table, include costs for protection and security, building and grounds maintenance, libraries requirements, exhibits central, accounting, personnel administration, and plant operations.

⁴Additional resources for operations and support will be raised from trust funds and donors to augment programs and selected activities in dollar amounts that cannot be estimated at this time.

APPENDIX I

APPLICATION OF SMITHSONIAN OPERATING
RESOURCES FY 1986 AND PROJECTED THROUGH
FY 1992 BY ORGANIZATION

RESEARCH

Assistant Secretary for Research. Administration of research programs rests with this Office; guidance, planning, and overall policy direction for scientific research efforts and research related education and exhibition activities are provided through the Assistant Secretary.

Joseph Henry Peters (JHE). Over the next five years, efforts will continue to collect, transcribe, edit and publish the manuscript of Joseph Henry, the first Secretary of the Smithsonian Institution.

Astrophysical Observatory (SAO). The major instrument theme for research during the planning period will be based on increased resolution both spatially, via interferometry, and spectrally, in all accessible wavelength bands. A submillimeter interferometry instrument is being planned. Development of detectors at wavelengths from x-ray through submillimeter will be pursued. Improvements are also scheduled for the telescopes at the Fred L. Whipple Observatory and for the facilities there. The mirrors of the Multiple Mirror Telescope atop the Whipple Observatory will be replaced by a large 6.5 meter diameter reflector in order to allow this unique instrument to remain at the forefront of research in optical astronomy; further, SAO intends to replace its inadequate base camp with a new facility. A program of replacement and improvement of laboratory and computer equipment will continue over the period. The Observatory will be helping to improve the teaching of science and mathematics to precollege students by developing educational materials to engage student interest, taking advantage of the apparent universal attraction of the young to astronomy. SAO also will address and attempt to correct the shortage of support personnel that is hampering scientific productivity.

SMITHSONIAN INSTITUTION FUNDS
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 4 (1)

RESEARCH	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL (\$000)	\$ EMPL (\$000)												
ASSISTANT SECRETARY FOR RESEARCH														
FEDERAL SALARY & EXPENSES	13	484	25	1035	25	1073	25	1073	25	1073	25	1073	25	1073
UNRESTRICTED GENERAL	1	92	1	101	1	102	1	103	1	104	1	105	1	106
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	35	0	3	0	22	0	25	0	25	0	25	0	25
RESTRICTED	10	382	15	1012	10	477	10	677	10	677	10	677	10	677
FEDERAL GRANTS & CONTRACTS	16	994	7	567	5	614	5	618	2	225	2	232	2	239
-SUBTOTAL	40	1987	48	2718	41	2288	41	2496	38	2104	38	2112	38	2120
JOSEPH HENRY PAPERS														
FEDERAL SALARY & EXPENSES	4	169	5	180	5	190	5	210	5	210	5	210	5	210
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	1	0	1	0	1	0	1	0	1	0	1	0	1
RESTRICTED	0	0	1	55	1	22	1	22	1	22	1	22	1	22
FEDERAL GRANTS & CONTRACTS	0	16	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL	4	186	6	236	6	213	6	233	6	233	6	233	6	233
ASTROPHYSICAL OBSERVATORY														
FEDERAL SALARY & EXPENSES	102	8642	103	9152	105	10217	118	12094	121	13094	126	14094	133	16094
UNRESTRICTED GENERAL	43	2665	47	2866	47	2741	47	2707	47	2867	47	2627	47	2517
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	32	1023	32	908	31	840	31	780	31	790	31	795	31	800
-ALL OTHER	0	830	0	513	0	562	0	595	0	625	0	655	0	690
RESTRICTED	0	161	0	103	0	113	0	114	0	119	0	124	0	129
FEDERAL GRANTS & CONTRACTS	100	12486	97	14300	88	11000	84	16700	85	17250	80	16000	76	14450
-SUBTOTAL	277	25807	279	27842	271	25473	280	32990	284	34745	284	34295	287	33680

Tropical Research Institute (STRI). During the planning period STRI anticipates strengthening its position as the principal center for studies in tropical biology, in the areas of molecular biology, biochemical evolution, aquatic biology, marine plankton, and soil and forest ecology. Educational and conservation activities will continue focusing on the unique features of the Barro Colorado Island Nature Monument. In addition, STRI will continue to make its resources available to organizations of the host country and other institutions to assist in programs of nature conservation and development. An important corollary of this work is the training of third-world students in tropical biology. To effectively support existing programs and to take advantage of unexpected opportunities, facilities modernization involving principal STRI sites, Naos, Galeta, Tivoli and Barro Colorado Island are planned. Construction of the new laboratory/conference center is to be completed in late FY 1988.

Environmental Research Center (SERC). The closing of SERC-Rockville will afford an opportunity to enhance long-term research activities at SERC-Edgewater. Programs on CO₂ monitoring and the effects of CO₂ on saltgrass marsh areas will be transferred to the site. Short term research needs in such fields as geochemistry, agronomy, hydrology, meteorology and hydrodynamics will be addressed through two to three year postdoctoral appointments. In the longer term additional staffing will be required to achieve a critical mass of staff. In FY 1987 funds will be used to add a modest addition to the present laboratory complex to house transferred programs from Rockville. In the future, a modest addition for scientific instrumentation shop will also be required.

Zoological Park (NZP). In 1989, the Zoo will celebrate its Centennial, and efforts during this planning period are directed at improving the quality of its programs and facilities. The Zoo will continue the development of long-term zoological and biomedical research activities at Rock Creek and Front Royal. Emphasis will be placed on research problems related to the captive management of wildlife and conservation biology, including physiology, ecology and behavior. Equipment needs to implement such programs will also be addressed during this planning period. The Zoo will continue to study reintroducing animals to their natural habitats. Training programs for developing wildlife conservation techniques in the tropics will focus on wildlife biologists from developing nations. The visiting public will be made more aware of the plight of endangered species through the use of signs, labels, and improved graphics. During the planning period facilities and exhibits work will continue on implementing the Rock Creek 1972 Master Plan. The projects include completion of the Entrance way and Olmsted Walk exhibits; construction of an aquatic exhibit; renovation of the hospital and research facilities; exhibits for grassland and forest animals. At the Front Royal Conservation and Research Center, appropriate facilities for waterfowl, road improvements, water systems and hydrants, and maintenance of the Center are being planned. Sound preventative maintenance programs will be pursued to include new buildings constructed at Rock Creek Park and Front Royal, Virginia.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 4 (2)

RESEARCH	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL	\$ (000)												
TROPICAL RESEARCH INSTITUTE														
FEDERAL SALARY & EXPENSES	89	3613	95	4063	112	5711	129	5668	129	5770	135	5977	136	5962
UNRESTRICTED GENERAL	2	101	2	164	2	176	2	183	2	190	2	197	2	204
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	0	155	0	170	0	174	0	180	0	185	0	190	0	195
-ALL OTHER	0	210	1	162	1	168	0	170	0	175	0	180	0	185
RESTRICTED	0	388	0	593	0	412	0	390	0	400	0	415	0	425
FEDERAL GRANTS & CONTRACTS	14	79	14	573	14	591	17	610	17	625	17	645	0	100
-SUBTOTAL	105	4546	112	5725	129	7232	148	7201	148	7345	154	7604	138	7071
SMITHSONIAN ENVIRONMENTAL RESEARCH CTR.														
FEDERAL SALARY & EXPENSES	53	3175	40	2068	28	1376	32	1653	35	1797	39	1981	42	2150
UNRESTRICTED GENERAL	1	75	1	84	1	89	1	92	1	94	1	97	1	100
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	0	0	0	13	0	13	0	13	0	13	0	13	0	13
-ALL OTHER	0	97	0	102	0	101	0	100	0	100	0	100	0	100
RESTRICTED	0	43	0	17	0	17	0	10	0	10	0	10	0	10
FEDERAL GRANTS & CONTRACTS	2	483	2	462	2	472	8	470	8	470	8	470	8	470
-SUBTOTAL	56	3873	43	2746	31	2068	41	2338	44	2484	48	2671	51	2843
NATIONAL ZOOLOGICAL PARK														
FEDERAL SALARY & EXPENSES	317	11105	321	12025	332	13176	341	13773	340	13823	344	14592	352	14623
UNRESTRICTED GENERAL	1	112	1	120	1	120	1	123	1	126	1	129	1	132
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	296	0	177	0	126	0	130	0	135	0	140	0	145
RESTRICTED	1	157	1	429	1	626	1	951	1	1036	1	1037	1	1037
FEDERAL GRANTS & CONTRACTS	0	7	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL	319	11677	323	12751	334	14048	343	14977	342	15120	346	15898	354	15937

Smithsonian Institution Archives (SIA). The Archives will extend archival and records management programs to all records-producing offices of the Institution, and will accept increases in volume and diversity of records transferred into the Archives to the extent of its space available during the planning period. The photographic collections survey will continue and produce finder's guides and a central database. Phased improvements in micrographic capability and oral history capability are planned for this period on a limited basis, and development of Archives capability to automate its internal collections management and handle automated, machine-readable records from operating offices will be vigorously pursued. Alternatives to present space will be examined; more space is needed in future years to accommodate increasing volumes of materials.

Smithsonian Institution Libraries (SIL). The principal objective of the Libraries over the planning period is to build a working collection to meet the needs of SI scholars, to identify and describe 400,000 titles not yet included in the SIL computer database, to begin treating preservation problems present in approximately ninety percent of the collections by microfilming and other techniques and to plan further for a central, permanent facility in which to consolidate the general reference, special and rare collections, central acquisitions and processing services and SIL administration. The SIL will continue to support directly the wide fields of SI scholarly research and public and administrative programs through its system of branches located in Washington, Cambridge, New York City, and Panama; its interlibrary loan services; and its online data services. Requirements for establishing library services in the Quadrangle are contained in the Libraries projections and are aggregated for display purposes in Table 3.

TABLE 4 (3)

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL	\$ (000)												
RESEARCH														
SMITHSONIAN ARCHIVES														
FEDERAL SALARY & EXPENSES	14	518	15	549	15	579	15	682	15	682	15	682	15	682
UNRESTRICTED GENERAL	6	173	6	188	6	194	6	204	2	75	2	79	2	81
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	1	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	1	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL	20	693	21	737	21	773	21	886	17	757	17	761	17	763
SMITHSONIAN INSTITUTION LIBRARIES														
FEDERAL SALARY & EXPENSES	98	4406	96	4764	98	5039	101	5427	101	5439	102	5394	102	5404
UNRESTRICTED GENERAL	10	331	10	390	10	436	10	458	10	481	10	505	10	530
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	49	0	108	0	2	0	0	0	0	0	0	0	0
-ALL OTHER	0	85	0	6	0	5	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-SUBTOTAL	108	4871	106	5268	108	5482	111	5885	111	5920	112	5899	112	5934
RESEARCH-SUMMARY														
FEDERAL SALARY & EXPENSES	690	32112	700	33836	720	37361	766	40580	771	41888	791	44003	810	45198
UNRESTRICTED GENERAL	64	3549	68	3913	68	3858	68	3870	64	3937	64	3739	64	3670
-PROGRAM & ADMINISTRATIVE *	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	32	1178	32	1091	31	1027	31	973	31	988	31	998	31	1008
-BUREAU ACTIVITY	0	1519	1	1066	1	982	0	1021	0	1061	0	1101	0	1146
-ALL OTHER	11	1217	17	2215	12	1672	12	2164	12	2264	12	2285	12	2300
RESTRICTED	132	14065	120	15902	109	12677	114	18398	112	18570	107	17347	86	15259
FEDERAL GRANTS & CONTRACTS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-TOTAL	929	53640	938	58023	941	57577	991	67006	990	68708	1005	69473	1003	68581
	-	2654	-	2700	-	2704	-	2670	-	2830	-	2590	-	2480

* Less SAO overhead recovery

-2654

-2700

-2704

-2670

-2830

-2590

-2480

MUSEUMS

Assistant Secretary for Museums. The Office acts for the Secretary in coordinating and providing direction to the Institution's activities, maintains a liaison with national and international museum organizations, and undertakes special studies on museum operations and methodologies.

Office of Museum Programs (OMP). During the planning period, the Office of Museum Programs intends to continue high quality museology training and information services (including Internships, the Visiting Professionals Program and the Museum Reference Center), consultations and conferences. Production and distribution of audiovisuals will increase. The Museum training workshops conducted by Smithsonian staff will continue locally and the regionally- and internationally- based, cosponsored workshops and training services will be increased in order to respond to the needs of the broader profession. The Office will continue to serve special minorities, through the Native American Museums Program and Awards for Minority Museum Professionals. Programs to expand the educational influence of museums will be maintained, and internal Smithsonian staff training will be conducted as requested.

Office of the Registrar (OR). This Office is responsible for Institutional development, oversight, and coordination of policies and practices related to the management of collections, including accountability procedures and information management techniques for all objects and specimens held by the Smithsonian. Inventory, one aspect of collections management touching on all these matters, has been and will continue to be an important concern throughout the planning period because all bureaus are required to conduct cyclical inventories now that their initial 1978-83 baseline inventories have been completed. A related concern will be the enhancement and updating of collection records to improve knowledge about and access to the collections. In addition, training programs will be developed to support Smithsonian personnel working in collection registration and related functions. The Office also will continue to manage the affairs of the Smithsonian's Registrarial Council and will develop collections management information for dissemination through this group.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THRU 1992

TABLE 5 (1)

MUSEUMS	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL	\$ (000)												
ASSISTANT SECRETARY FDR MUSEUMS														
FEDERAL SALARY & EXPENSES	7	406	10	554	10	573	10	573	10	573	10	573	10	573
UNRESTRICTED GENERAL	1	149	1	125	1	128	1	132	1	139	1	146	1	153
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	0	0	0	1	0	1	0	0	0	0	0	0	0	0
-ALL OTHER	0	3	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL	8	558	11	680	11	702	11	705	11	712	11	719	11	726
OFFICE OF MUSEUM PROGRAMS														
FEDERAL SALARY & EXPENSES	11	366	12	378	12	401	12	401	12	401	12	401	12	401
UNRESTRICTED GENERAL	0	7	0	9	0	12	0	13	0	14	0	15	0	16
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	0	52	0	44	0	42	0	75	0	80	0	85	0	85
-ALL OTHER	0	60	0	15	0	16	0	15	0	15	0	15	0	15
RESTRICTED	3	379	3	262	2	151	2	150	2	150	2	200	3	250
FEDERAL GRANTS & CONTRACTS	0	5	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL	14	869	15	708	14	622	14	654	14	660	14	716	15	767
OFFICE OF THE REGISTRAR														
FEDERAL SALARY & EXPENSES	1	93	2	107	2	112	4	158	4	158	4	158	4	158
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	-SUBTOTAL	1	93	2	107	2	112	4	158	4	158	4	158	4

National Museum Act (NMA). Since the National Museum Act has not been reauthorized for FY 1987, the Institution envisions using this funding to support the Smithsonian's own initiatives in conservation, research and training and other basic cooperation with the museum programs.

Museum of Natural History (NMNH). During the planning period, the Museum will continue to conserve and transport research collections being housed at the Museum Support Center. New integrated departmental programs will be initiated in the study of the biological diversity of tropical Latin America and Afro-Asia, the archaeology and anthropology of the native peoples of the Arctic and Arctic biology, and the effects of historical human disturbances on island ecosystems in the Caribbean, the Oceanic Pacific and the insular regions of Southeast Asia. The Museum will also be pursuing a major new initiative in molecular biology to enhance its ongoing activities in systematic and evolutionary biology. The Museum also expects to become involved in a national project (with multi-agency support in collaboration with universities and independent natural history museums) to survey and inventory biotic resources of the United States which will lead to an assessment of the diversity of our plants and animals and their potential utility to humans. A special effort will be made to make more information available about American Indians to both the research community and to the public through increased accessibility and display of collections and related activities. The Museum will continue to research the evolution of ecosystems, the process of extinction both past and present. These will be greater emphasis on exchange and cooperation between NMNH and the academic natural history research centers at universities and private sector museums. Efforts will continue to upgrade the exhibit and public areas of the Museum, including halls, meeting rooms, museum shops and public dining facilities.

Air and Space Museum (NASM). During the planning period, the Museum will continue to strengthen research programs in the history and technology of aviation, space flight, and planetary geology. NASM has expanded its contacts with the research and university communities, added an Office of University Programs and a program for the history of space science. The research departments are continuing programs to pursue a series of monographs on the history of aviation, to survey and compile archival documentation on the history of the space program, and to analyze the geological features of earth and the planets using photographic and other remote sensing data. An important adjunct to the research activities, which will benefit collection management, exhibition and public programs, is the continuation of the video disc and digital recording projects. Publications and the education programs will continue to emphasize precollege and higher education levels. The IMAX film, "On the Wing," premiered in June 1986; a new IMAX film on space exploration is planned for 1992, along with a major publication composed of Landsat images, and possible planetarium shows, both in celebration of the Columbus Quincentenary. New restaurant facilities will be completed during the period. Planning will continue during this five year period on a new facility on land at the Washington Dulles International Airport.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 5 (2)

MUSEUMS	FY 1986			FY 1987			FY 1988			FY 1989			FY 1990			FY 1991			FY 1992		
	FT EMPL	\$ (000)																			
NATIONAL MUSEUM ACT																					
FEDERAL SALARY & EXPENSES	3	733	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY																					
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
FEDERAL GRANTS & CONTRACTS																					
-SUBTOTAL	3	733	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
NATIONAL MUSEUM OF NATURAL HISTORY																					
FEDERAL SALARY & EXPENSES	509	20691	530	22036	545	23919	598	26567	617	26531	596	26230	588	26177							
UNRESTRICTED GENERAL	1	110	1	201	1	121	1	126	1	132	1	138	1	144							
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY																					
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-ALL OTHER	0	1343	0	371	0	340	0	295	0	293	0	294	0	295							
RESTRICTED	7	1606	7	2598	7	3590	5	1505	5	1495	5	1506	5	1518							
FEDERAL GRANTS & CONTRACTS	26	1119	26	1040	25	1022	25	1041	24	1057	24	1088	24	1121							
-SUBTOTAL	543	24869	564	26246	578	28992	629	29534	647	29508	626	29256	618	29255							
NATIONAL AIR AND SPACE MUSEUM																					
FEDERAL SALARY & EXPENSES	228	8143	211	8652	212	9037	220	9545	220	9510	220	9510	218	9357							
UNRESTRICTED GENERAL	0	8	0	61	0	37	0	38	0	38	0	38	0	38							
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY																					
UNRESTRICTED SPECIAL PURPOSE	17	1698	13	1967	13	2075	17	2120	17	2170	17	2210	17	2255							
-BUREAU ACTIVITY	14	948	16	1324	15	1166	13	1381	13	1409	13	1437	13	1466							
-ALL OTHER	0	369	0	622	0	506	0	508	0	518	0	528	0	538							
RESTRICTED	3	346	3	246	3	289	3	295	3	301	3	307	3	313							
FEDERAL GRANTS & CONTRACTS																					
-SUBTOTAL	262	11512	243	12872	243	13110	253	13887	253	13946	253	14030	251	13967							

Museum of American History (NMAH). During this period the Museum plans to continue with its major reinstallation program, opening at least one new show each year; in addition, it will pursue a schedule of temporary exhibits for significant commemorations or themes. In particular, the Museum plans an exhibition commemorating the bicentennial of the signing of the United States Constitution and a major exhibition in celebration of the Columbus Quincentenary, together with the development of a new Native American Program. Concurrently, the Museum will begin implementation of its Master Plan for the renovation of the Museum building, now twenty three years old and badly in need of major repairs. This comprehensive work, including renovations to the roof, ventilation, fire protection, and removal of asbestos, has been planned to integrate with the Museum's continuing major reinstallation program. The second aspect of its Master Planning which the Museum expects to pursue during this period, is the twenty year space plan, which projects needs for the period based on a current study of collections growth and related requirements. Collections management during the coming five year period concentrates on the move to the Museum Support Center, renovation and asbestos removal at the Silver Hill facilities. Automation also must be advanced to support collections management, principally inventory and other collections accountability programs; automation support for management information and other needs also will be addressed. The Museum seeks to develop its research activities through a Center for the Study of American History, which would combine, in a more structured way, the existing research centers of the Museum, the Eisenhower Institute, The Afro-American Research Project, Archives Center and the journal, "Technology and Culture". Such a Center would encourage intramural research, assist in the development of new collections such as the documentary holdings of the recently established Archives Center, promote new affiliations and provide an appropriate setting for an active program of seminars with published proceedings.

Museum of American Art (NMAA). Throughout the planning period, NMAA plans to concentrate on traditional program areas such as scholarly research, publications, exhibitions, conservation, public education and acquisitions. Enhancement of NMAA's foremost automated research resource, the Inventory of American Painting, and a nationwide field survey for the parallel Inventory of American Sculpture, will strengthen the Museum's position as a national resource for the study of American art. Exhibitions, research and collecting by the Renwick Gallery will continue to focus on American crafts and decorative arts. These programs will be strengthened over the coming years and there will be new emphasis on research in the crafts field. In 1986, the Museum initiated the journal Smithsonian Studies in American Art; the Museum hopes to expand to a quarterly publication during the next five years.

Portrait Gallery (NPG). Two major exhibitions are planned in commemoration of the Bicentennial of the U.S. Constitution: "The Portrait in America from 1700 to 1776," and "Portraits of Distinguished American Jurists." To coincide with the opening of the American Jurists show, an interpretive program to encourage the reading and understanding of the U.S. Constitution, to examine the lives of the men who wrote it, and the great legal figures who interpreted it, will be offered to high school classes of gifted and talented students. A symposium and a self-portrait program may also be presented in conjunction with this exhibition. Additional resources are needed to strengthen the Gallery's research program, to improve research facilities in the library and to broaden the publication program to include a series of guides to selected portions of the permanent collections. The Gallery is planning to participate in the Columbus Quincentenary with a special exhibit on masterpieces of Spanish portraiture.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 5 . . . (3)

	MUSEUMS						NATIONAL MUSEUM OF AMERICAN HISTORY						NATIONAL MUSEUM OF AMERICAN ART						NATIONAL PORTRAIT GALLERY					
	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FT EMPL (\$000)	FT EMPL (\$000)	FT EMPL (\$000)	FT EMPL (\$000)	FT EMPL (\$000)	FT EMPL (\$000)	FT EMPL (\$000)	FT EMPL (\$000)	FT EMPL (\$000)	FT EMPL (\$000)							
FEDERAL SALARY & EXPENSES	325	12023	316	13109	330	13648	354	14498	369	14920	359	14905	345	14565										
UNRESTRICTED GENERAL	2	295	1	191	1	185	1	193	1	202	1	211	1	222										
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
-AUXILIARY ACTIVITY																								
UNRESTRICTED SPECIAL PURPOSE																								
-BUREAU ACTIVITY	0	17	0	14	0	11	0	11	0	11	0	12	0	12										
-ALL OTHER	3	814	2	669	2	554	2	588	2	613	2	639	2	665										
RESTRICTED	9	743	10	1572	9	1183	10	1194	5	731	5	772	5	794										
FEDERAL GRANTS & CONTRACTS	2	50	1	6	0	0	1	49	1	50	1	51	1	52										
-SUBTOTAL	341	13942	330	15561	342	15581	368	16533	378	16527	368	16588	354	16310										
FEDERAL SALARY & EXPENSES	115	4692	118	4851	118	5050	118	5428	120	5491	121	5529	122	5619										
UNRESTRICTED GENERAL	0	46	0	62	0	49	0	51	0	53	0	55	0	58										
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
-AUXILIARY ACTIVITY																								
UNRESTRICTED SPECIAL PURPOSE																								
-BUREAU ACTIVITY	0	9	0	7	0	9	0	12	0	12	0	12	0	12										
-ALL OTHER	4	264	4	223	4	195	4	177	4	177	4	177	4	177										
RESTRICTED	2	976	1	422	1	114	1	123	1	123	1	123	1	123										
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
-SUBTOTAL	121	5987	123	5565	123	5417	123	5791	125	5856	126	5896	127	5989										
FEDERAL SALARY & EXPENSES	82	3517	83	3739	86	4069	88	4189	88	4296	89	4357	89	4357										
UNRESTRICTED GENERAL	0	23	0	18	0	18	0	18	0	18	0	19	0	19										
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
-AUXILIARY ACTIVITY																								
UNRESTRICTED SPECIAL PURPOSE																								
-BUREAU ACTIVITY	0	11	0	13	0	14	0	15	0	15	0	15	0	15										
-ALL OTHER	0	116	0	63	0	96	0	100	0	100	0	100	0	100										
RESTRICTED	0	150	0	218	0	336	0	150	0	150	0	150	0	150										
FEDERAL GRANTS & CONTRACTS	0	14	0	0	0	0	0	0	0	0	0	0	0	0										
-SUBTOTAL	82	3831	83	4051	86	4533	88	4472	88	4579	89	4641	89	4641										

Hirshhorn Museum (HMSG). During the planning period, HMSG will continue to strengthen its research programs with active accessioning, deaccessioning and published work. The bequest of Joseph H. Hirshhorn will be catalogued, photographed, and researched during the period. The Museum also intends to strengthen its use of computers in various aspects of its daily operations including the storing of visual images of the permanent collection. The Museum will research and produce several major exhibitions during this period, many of which will travel to other museums. The Museum proposes to develop a major exhibition in 1992 for the Columbus Quincentenary celebration on contemporary art of Latin America.

Center for Asian Art (CAA). The opening of the Sackler Gallery in the Quadrangle will enable the Center for Asian Art to expand its programs in selected areas over the next five years. Staff and resources are projected for the Sackler Gallery to develop its traveling exhibition program, research, collections acquisitions and management and publications programs. Future year plans include expansion of the conservation staff of the Center subsequent to the renovation of the Freer which will result in expanded conservation facilities, collection storage and office areas. Additional funds to the Freer exhibition base will support updating of lighting, cases, general permanent collection installation and exhibitions in gallery space provided by the renovation. Emphasis will be placed on the development of an aggressive collections acquisitions program for both the Freer Gallery of Art and the Arthur M. Sackler Gallery to assure acquisition of the finest quality objects and to search for particular examples that strengthen existing holdings.

Archives of American Art (AAA). The Archives staff will direct attention to the management and care of the collections by strengthening its collections management operations, eliminating its processing backlog, organizing its collections, fine tuning the collection catalog, taking necessary conservation measures and converting collections management systems from manual to automated. Of immediate concern is the care of the photograph collection, for which curatorial support and conservation services are required. Conservation of 2,500 valuable oral histories is also a high priority and a system for proper handling and storage of the original tapes needs to be developed. The Archives will continue to plan for the eventual occupancy of the General Post Office Building, where for the first time all of the Archives' primary documents would be available in one location.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 5 (4)

		FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
		FT EMPL (000)	\$ EMPL (000)	FT EMPL (000)	\$ EMPL (000)	FT EMPL (000)	\$ EMPL (000)	FT EMPL (000)
MUSEUMS	HIRSHHORN MUSEUM & SCULPTURE GARDEN	74	2961	77	3204	78	3351	78
FEDERAL SALARY & EXPENSES		0	13	0	13	0	14	0
UNRESTRICTED GENERAL	-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	15
-AUXILIARY ACTIVITY		0	0	0	0	0	0	0
UNRESTRICTED SPECIAL PURPOSE		0	0	0	0	0	0	0
-BUREAU ACTIVITY		0	0	0	0	0	0	0
-ALL OTHER		0	1253	0	343	0	230	0
RESTRICTED		0	495	0	517	0	450	0
FEDERAL GRANTS & CONTRACTS		0	0	0	0	0	0	0
-SUBTOTAL		74	4722	77	4077	78	4044	78
CENTER FOR ASIAN ART								
FEDERAL SALARY & EXPENSES		40	2934	63	3891	68	3961	72
UNRESTRICTED GENERAL	-PROGRAM & ADMINISTRATIVE	1	5597	1	164	1	73	1
-AUXILIARY ACTIVITY		0	0	0	0	0	0	0
UNRESTRICTED SPECIAL PURPOSE		0	0	0	0	0	0	0
-BUREAU ACTIVITY		0	1492	0	5	0	0	0
-ALL OTHER		21	1488	21	1905	21	1733	21
RESTRICTED		0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS		62	11511	85	5965	90	5767	94
-SUBTOTAL								
ARCHIVES OF AMERICAN ART								
FEDERAL SALARY & EXPENSES		19	899	19	996	19	1041	21
UNRESTRICTED GENERAL	-PROGRAM & ADMINISTRATIVE	0	22	0	79	0	79	0
-AUXILIARY ACTIVITY		0	0	0	0	0	0	0
UNRESTRICTED SPECIAL PURPOSE		0	0	0	0	0	0	0
-BUREAU ACTIVITY		0	2	0	20	0	0	0
-ALL OTHER		14	838	14	1013	14	858	14
RESTRICTED		0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS		33	1761	33	2108	33	1978	35
-SUBTOTAL								

Cooper-Lieuitt Museum (CHM). The Museum has started a fundraising effort in order to undertake and complete improvements to its physical facilities. Exhibition programming and educational activities will continue during the fundraising cycle. Collections management efforts will focus on refinement of collections records, and, when appropriate, relocating the collections for renovation efforts to proceed. Increased resources for the care and preservation of the collections and to maintain the physical plant and facilities are needed. Similarly, additional support to manage graphic and archival collections not appropriately combined with the existing prints and drawings holdings, as well as curatorial support for its architectural, design, and wall coverings collections are needed.

Museum of African Art (NMAfA). During the planning period, NMAfA will continue to strengthen the quality of its collection to assure understanding of African visual traditions by the national and international audience it serves. The Museum will advance a substantive publication program including a collection series bulletin, exhibition catalogues and monographs based on scholarly research. A conservation program of examination, scientific testing and preservation of collection material will be accelerated and an annual conservation bulletin will be published. Special emphasis will be placed on the preservation of vintage photographic material in the collection of the Museum's Photographic Archives and the publication of a quarterly Archives newsletter. The NMAfA will host the VIII Triennial Symposium on African Art as well as an international working symposium on the art of the Luba in 1989.

Anacostia Neighborhood Museum (ANM). Completion and occupancy (in 1987) of the annex next to the present Exhibits Laboratory at Fort Stanton is the Museum's highest priority. The construction of this annex permits the Museum to vacate its leased space in the old Carver Theater and allows consolidation of activities and development of more varied and vigorous programming for the public. The need for a new and modern museum building will be examined over the period. Long-range plans include closer collaboration with other Smithsonian history and art museums involving joint research, systematic information collection and retrieval, education, collection and curatorial programs. Further, the Museum will continue to develop research and exhibition projects that support in-house and traveling exhibitions and to locate and interpret historical documents, artifacts, and memorabilia that are germane to Afro-American studies and ethnohistory for use in museum exhibitions.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 5 (5)

MUSEUMS	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL	\$ (000)												
COOPER-HEWITT MUSEUM														
FEDERAL SALARY & EXPENSES	30	1012	30	1031	30	1076	30	1247	30	1247	30	1247	30	1247
UNRESTRICTED GENERAL	18	773	19	820	19	844	19	871	19	899	19	928	19	958
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	4	767	4	675	4	694	4	715	4	736	4	758	4	781
-BUREAU ACTIVITY	0	667	0	349	0	323	0	333	0	343	0	353	0	364
-ALL OTHER	1	434	1	586	1	641	1	849	1	874	1	900	1	927
RESTRICTED	0	41	0	50	0	50	0	50	0	50	0	50	0	50
FEDERAL GRANTS & CONTRACTS														
-SUBTOTAL	53	3694	54	3511	54	3628	54	4065	54	4149	54	4236	54	4327
NATIONAL MUSEUM OF AFRICAN ART														
FEDERAL SALARY & EXPENSES	34	2349	51	3093	56	3401	56	3474	56	3594	57	3622	58	3725
UNRESTRICTED GENERAL	2	54	1	121	1	40	1	42	1	45	1	48	1	50
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	2	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	3	802	3	994	3	188	3	210	3	104	0	50	0	50
-ALL OTHER	1	97	1	261	1	95	1	45	1	45	1	45	1	45
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
-SUBTOTAL	40	3304	56	4469	61	3724	61	3771	61	3788	59	3765	60	3870
ANACOSTIA NEIGHBORHOOD MUSEUM														
FEDERAL SALARY & EXPENSES	14	772	19	900	19	931	20	958	21	983	22	1004	23	1030
UNRESTRICTED GENERAL	1	28	1	41	1	44	1	45	1	47	1	48	1	49
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	23	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	1	0	0	0	0	1	0	1	0	1	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
-SUBTOTAL	15	823	20	942	20	976	21	1005	22	1032	23	1054	24	1081

Conservation Analytical Laboratory (CAL). Activities are increasing as the Laboratory's conservation, scientific, and information staffs activate and utilize the new facilities. Equipment and work areas allow for more complete treatment of several classes of materials, and modern instrumentation permits a wider range of analysis and research to provide answers to pressing conservation questions. Research will also provide a technological base for new work in conservation techniques, for understanding mechanisms which govern deterioration processes, and for control of environmental conditions for museum objects. The range of objects subject to archaeometric research will be extended and the data bases produced by this research will be enlarged. Existing archaeometric data currently scattered in laboratories throughout the country are being brought together in the Smithsonian Archaeometric Research Collections and Records (SARCAR). All of these staff, laboratory and information resources are available for the development of the conservation training program. Acquisition of new equipment for the CAL laboratories and training areas is planned to be continued through FY 1987. Funds added to CAL operations in FY 1987, in connection with the termination of the National Museum Act, will support conservation training activities both outside and inside the Smithsonian Institution.

Office of Exhibits Central (OEC). The Office will continue to produce, install, and maintain exhibitions and to provide other specialized services to the bureaus of the Institution. Highly specialized OEC capabilities include design and editorial services, freeze-dry taxidermy and all types of model making. In support of the Office of Museum Programs, the OEC provides workshop training in exhibition media and techniques for museum professionals throughout the world. Over the course of this planning period obsolete equipment will be gradually replaced with more reliable and technologically current machinery. Some support for Quadrangle related exhibition programs is being sought in FY 1987 and is contained in the OEC trends below.

Travelling Exhibition Service (SITES). Resources for Quadrangle and other support including Quincentennial research and exhibition activities are in the projections below through FY 1988 and also appear in Table 3. Education activities associated with SITES exhibitions will be sustained. These activities involve schools, multi-media workshops and workshops on new areas of education technology. Over the planning period the international exhibition program along with continued production and circulation of high quality exhibitions will be emphasized. SITES is planning a number of exhibit efforts to coincide with the Columbus Quincentenary celebration.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 5 (6)

MUSEUMS	FY 1986			FY 1987			FY 1988			FY 1989			FY 1990			FY 1991			FY 1992		
	FT EMPL	\$ (000)																			
CONSERVATION ANALYTICAL LABORATORY																					
FEDERAL SALARY & EXPENSES	34	1993	41	2342	41	2418	43	2635	44	2715	45	2770	46	2842							
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY																					
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	33	0	31	0	22	0	25	0	25	0	25	0	25	0	25	0	25	0		
-ALL OTHER	0	2	1	67	1	14	0	0	0	0	0	0	0	0	0	0	0	0	0		
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
FEDERAL GRANTS & CONTRACTS																					
-SUBTOTAL	34	2028	42	2440	42	2454	43	2660	44	2740	45	2795	46	2867							
OFFICE OF EXHIBITS CENTRAL																					
FEDERAL SALARY & EXPENSES	43	1528	44	1723	46	1841	49	1965	49	1965	49	1965	49	1965	49	1965	49	1965	49		
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY																					
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	0	-16	0	122	0	120	0	120	0	120	0	120	0	120	0	120	0	120		
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
FEDERAL GRANTS & CONTRACTS																					
-SUBTOTAL	43	1512	44	1845	46	1961	49	2085	49	2085	49	2085	49	2085	49	2085	49	2085	49		
TRAVELING EXHIBITION SERVICE																					
FEDERAL SALARY & EXPENSES	6	380	14	558	16	719	16	719	16	719	16	719	16	719	16	719	16	719	16		
UNRESTRICTED GENERAL	0	-4	7	250	7	260	7	270	7	280	7	290	7	290	7	290	7	290	7		
-PROGRAM & ADMINISTRATIVE	31	2061	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY																					
UNRESTRICTED SPECIAL PURPOSE	0	0	24	1695	24	1800	25	2000	26	2100	28	2400	29	2600	29	2600	29	2600	29		
-BUREAU ACTIVITY	0	340	0	21	0	14	0	30	0	30	0	30	0	30	0	30	0	30	0		
-ALL OTHER	3	804	3	890	1	698	2	800	1	800	0	800	0	800	0	800	0	800	0		
RESTRICTED	0	31	0	22	0	18	0	30	0	30	0	30	0	30	0	30	0	30	0		
FEDERAL GRANTS & CONTRACTS																					
-SUBTOTAL	40	3612	48	3436	48	3509	50	3849	50	3959	51	4269	52	4479	52	4479	52	4479	52		

TABLE 5 (7)

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

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MUSEUMS	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL	\$ (000)												
MUSEUMS-SUMMARY														
FEDERAL SALARY & EXPENSES	1575	65492	1640	71164	1688	75548	1789	81553	1829	82520	1804	82573	1792	82853
UNRESTRICTED GENERAL	26	7121	32	2155	32	1903	32	1968	32	2041	32	2112	32	2188
-PROGRAM & ADMINISTRATIVE	31	2061	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	21	2556	41	4416	41	4646	46	4948	47	5124	49	5492	50	5760
-BUREAU ACTIVITY	24	8144	25	4550	24	3264	22	3555	22	3520	19	3540	19	3616
-ALL OTHER	61	8381	62	10934	58	10370	57	8624	51	8347	50	8545	51	8731
RESTRICTED	31	1606	30	1364	28	1379	29	1465	28	1488	28	1526	28	1566
FEDERAL GRANTS & CONTRACTS														
- TOTAL	1769	95361	1830	94583	1871	97110	1975	102113	2009	103040	1982	103788	1972	104714

PUBLIC SERVICE

Assistant Secretary for Public Service. This Office provides administrative oversight and guidance to the Institution's Public Service programs. Overall goals over the next five years are to broaden educational outreach initiatives and national and international constituencies.

Office of Telecommunications (OTC). The opening of new facilities for the office in the Museum of American History has resulted in an expanded capability to fill the demands received from bureaus for audiovisual services. The completion of the Quadrangle International Center and the launching of its programs will bring an increase in such requests. The Office will also proceed with development of its children's television series, designed for ages 9-12. Other projects planned or under consideration for the period include programs for young citizens relating to the Constitution Bicentennial in 1987, the application of teleconferencing to symposia and scientific meetings involving the Smithsonian, a potential radio series featuring a wide variety of American music, and major film, video or radio programs marking the Columbus Quincentennial in 1992. In addition, the Office will explore video projects designed to increase the Smithsonian's presence in the educational and home video markets.

Visitor Information and Associates' Reception Center (VIARC). Information and reception services for the public and Associate members of the Institution are projected to increase significantly with the establishment of the Air & Space membership constituency, the opening of the Quadrangle, the phased opening of the new Smithsonian Information Center in the Castle (for which one million dollars has been received from the Pew Memorial Trust), and the continued implementation of the exterior graphic information system. Volunteer recruitment and training will be escalated to provide the appropriate level of staffing at museum and telephone information desks and in the new Information Center. VIARC will increase efforts to promote previsit education (through the tour and travel industry) and memberships in the Smithsonian Institution.

TABLE 6 (1)

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
1986 AND PROJECTED THROUGH FY 1992

	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL	\$ (000)												
PUBLIC SERVICE														
ASSISTANT SECRETARY FOR PUBLIC SERVICE														
FEDERAL SALARY & EXPENSES	4	223	4	223	4	236	4	236	4	236	4	236	4	236
UNRESTRICTED GENERAL	4	191	4	293	3	213	3	220	3	228	3	235	3	243
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	10	0	110	0	160	0	160	0	210	0	210
-ALL OTHER	0	31	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
- SUBTOTAL	8	442	8	526	7	559	7	616	7	624	7	681	7	689
OFFICE OF TELECOMMUNICATIONS														
FEDERAL SALARY & EXPENSES	4	195	5	221	5	231	5	231	5	231	5	231	5	231
UNRESTRICTED GENERAL	9	554	9	553	9	597	9	620	9	646	9	672	9	698
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	2	0	61	0	72	0	88	0	99	0	112	0	125
-BUREAU ACTIVITY	0	137	0	2	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
- SUBTOTAL	13	888	14	837	14	900	14	939	14	976	14	1015	14	1054
VISITOR'S INFORMATION & ASSOCIATES RECPT														
FEDERAL SALARY & EXPENSES	5	187	3	203	3	211	3	211	3	211	3	211	3	211
UNRESTRICTED GENERAL	21	700	21	826	21	875	21	919	21	965	21	1013	21	1064
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
- SUBTOTAL	26	887	24	1029	24	1086	24	1130	24	1176	24	1224	24	1275

Office of Public Affairs. For the third consecutive year, the Office conducted in FY 1986 a program to increase minority visits to the Institution and minority participation in Smithsonian activities; radio, printed materials and televised public service announcements were part of the effort. The Office is producing a Spanish-language version of the Smithsonian News Service, a feature story service distributed to more than 1,550 newspapers nationwide. The Office is also distributing the Smithsonian News Service via Associated Press Data Feature to selected newspapers at cost. Media materials on Smithsonian research will continue to be produced. Electronic links between the central Office and various individual bureau public information offices will increase in order to speed the processing of news releases and other materials. Efforts will be intensified to increase public awareness among wider audiences of Smithsonian research, performances and cultural events. Intensive planning for the opening of the Quadrangle facilities is being carried out, with emphasis on coordination of pertinent activities, an overall pan-Institutional public affairs program and the planned production of a new general information brochure and other materials.

Smithsonian Institution Press (SIP). Long-range plans call for gradual growth of the university press division. Emphasis will be placed on scholarly publications in anthropology, art and art history, American studies, aviation and space, natural history and museum management. Careful attention will continue to be given to electronic publishing (data base storage, retrieval and desktop publishing) and the establishment of a video cassettes division. The direct mail book division's goals are to continue to publish books of general interest primarily to Smithsonian Associates that are well-written and carefully researched. The records division will continue to produce one or two popular record packages a year and will start again releasing two or three scholarly records a year; the division is examining broader distribution through retail outlets.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 6 (2)

		FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
		FT EMPL (\$ 000)						
PUBLIC SERVICE								
OFFICE OF PUBLIC AFFAIRS								
FEDERAL SALARY & EXPENSES	12	558	12	622	12	627	12	627
UNRESTRICTED GENERAL	4	373	4	544	4	430	4	474
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	4
-AUXILIARY ACTIVITY							0	0
UNRESTRICTED SPECIAL PURPOSE	0	0	0	11	0	11	0	0
-BUREAU ACTIVITY	0	0	0	1	0	1	0	0
-ALL OTHER	0	8	0	0	0	0	1	1
RESTRICTED	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0
-SUBTOTAL	16	939	16	1178	16	1069	16	1092
SMITHSONIAN INSTITUTION PRESS								
FEDERAL SALARY & EXPENSES	27	1066	29	1144	29	1197	29	1197
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	35	13155	35	13390	36	14580	36	15880
-AUXILIARY ACTIVITY							36	16920
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	0	12	0	0	0	0	0	0
-SUBTOTAL	62	14233	64	14534	65	15777	65	17077
PUBLIC SERVICE-SUMMARY								
FEDERAL SALARY & EXPENSES	52	2229	53	2413	53	2502	53	2502
UNRESTRICTED GENERAL	38	1818	38	2216	37	2115	37	2211
-PROGRAM & ADMINISTRATIVE	35	13155	35	13390	36	14580	36	15880
-AUXILIARY ACTIVITY							36	16920
UNRESTRICTED SPECIAL PURPOSE	0	2	0	72	0	83	0	100
-BUREAU ACTIVITY	0	142	0	13	0	111	0	161
-ALL OTHER	0	31	0	0	0	0	0	0
RESTRICTED	0	12	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	-TOTAL	126	17389	126	18104	126	19391	126
								22926
								126

Directorate of International Activities. The Directorate consists of the Office of Service and Protocol, the Office of Publications Exchange, and immediate program staff headquartered in the Quadrangle. Responsibility for managing the Institution's Foreign Currency Program was transferred to the Directorate from the Office of Fellowships and Grants. The Directorate was created to monitor, coordinate and enhance the Smithsonian's array of work in the International field, and to plan, design and conduct programs of the International Center. The Directorate also is responsible for the pan-Institutional coordination and planning of the 1992 commemoration of the Columbus Quincentenary. Commencing in 1987 and continuing through 1992, this effort is anticipated to require substantial levels of support for programs ranging from publications to exhibitions. Although not reflected in the Prospectus figures, the Smithsonian is considering a joint project (with a broadcasting company and a noted independent producer) to film a ten-part television series to appear in 1989-1990 in anticipation of the Quincentenary commemoration; this project is intended to promote a broad understanding of the history of the confluence of indigenous and Hispanic traditions of the Americas. Foreign Currency funds, not part of the Institution's federal operating appropriation, are not included in the table below; however, throughout the planning period the Directorate will continue to administer funds previously appropriated to the Foreign Currency Program, and allocated under special arrangements such as the US-India Fund.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 7 (1)

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American Studies and Folklife Programs (OAmers and OFP). During FY 1987-92 the Office of Folklife Programs will continue to expand the Smithsonian Folklife Studies series with publication of monographs/films based on scholarly research of folkways still practiced or in living memory in a variety of traditional cultures; publish papers and reviews; organize living presentations within exhibitions mounted by other bureaus; plan and produce the annual Festival of American Folklife; and perform research on the Folklife Collection which is expected to be acquired by the Institution in early 1987. Activities which had been under consideration for future year festivals but which cannot be provided within constrained out-years funding levels include permanent programs on traditions of the workplace and on Black American and Native American cultures. The festival will continue to present the diverse cultures and traditions found in the United States, as well as programs representing ethnic groups worldwide. The Office of American Studies will continue to sponsor a graduate program in American material culture in cooperation with various universities in and outside of the Washington, D.C. area; the activities and resources associated with this program currently are not expected to change in a major fashion.

International Environmental Science Program (IESP). Over the five-year planning period, increasing attention will be paid to studies in tropical and subtropical regions where new knowledge is necessary to understand the complexities of biological diversity. Man-related activities, coupled with natural processes are causing severe disruptions to these ecosystems which serve as centers for important sources of food, pharmaceuticals and other products for man. The destruction of these ecosystems must be studied in order to develop a means to retard biotic degradation. During FY 1987-1992 additional sites are contemplated for study in the Neotropics and old world tropics to enhance efforts in biological diversity.

Office of Fellowships and Grants (OFG). The Office will continue to administer the Institution's fellowship programs and visiting academic appointments and internships. Since 1979, most of these activities have been supported with nonappropriated trust funds. Approximately 100 fellowships and 400 other awards are offered each year. The funding projected will enable us to offer an increase in the number and kinds of awards. It will allow for expanded fellowship programs, short-term visiting scholars and students appointments and workshops, and will encourage international participation (especially of third world countries) in all programs. Increases are also planned for the Regent's Fellowship program. In addition, through the Office the Institution provides opportunities for minority students via the Cooperative Education Program, internship and education fellowships; this effort will as appropriate funding materializes. Beginning in FY 1987, the Office administers the Scholarly Studies Program.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 8 (1)

SPECIAL PROGRAMS	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL	\$ (000)												
AMERICAN STUDIES & FOLKLIFE														
FEDERAL SALARY & EXPENSES	12	680	8	736	8	806	8	1065	8	1065	8	1165	8	1415
UNRESTRICTED GENERAL	12	598	12	599	12	654	12	672	12	694	12	711	12	734
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	72	0	5	0	5	0	5	0	5	0	5	0	5
-BUREAU ACTIVITY	0	28	0	50	0	37	0	41	0	41	0	41	0	41
-ALL OTHER	0	402	0	349	0	503	0	518	0	534	0	550	0	567
RESTRICTED	0	221	0	669	0	1198	0	670	0	690	0	711	0	732
FEDERAL GRANTS & CONTRACTS														
- SUBTOTAL	24	2001	20	2408	20	3203	20	2971	20	3029	20	3183	20	3494
INTERNAT'L ENVIRONMENTAL SCIENCE PROGRAM														
FEDERAL SALARY & EXPENSES	10	687	13	738	13	750	13	819	13	819	13	819	13	819
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
- SUBTOTAL	10	687	13	738	13	750	13	819	13	819	13	819	13	819
OFFICE OF FELLOWSHIPS & GRANTS														
FEDERAL SALARY & EXPENSES	7	211	9	276	9	394	9	394	9	394	9	394	9	394
UNRESTRICTED GENERAL	4	87	4	109	4	116	4	125	4	128	4	132	4	136
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	1656	0	1943	0	2157	0	2337	0	2687	0	3017	0	3292
-ALL OTHER	0	34	0	62	0	62	0	55	0	15	0	15	0	15
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
- SUBTOTAL	11	1988	13	2390	13	2729	13	2911	13	3224	13	3558	13	3837

Office of Symposia and Seminars (OSSS). The Office will continue to design public service educational programs combining the increase of knowledge with the diffusion of knowledge. Its interdisciplinary approach involves the search for significant themes, commemorations, issues, or problems requiring attention of a broad variety of specialties in the humanities and sciences. Through symposia, seminars, and books it serves as a bridge within academia on the one hand, and on the other a link between academics, the general public, and youth preparing for the duties of citizenship. Three major projects will require most of the Office's resources in the next decade: (1) encouraging Smithsonian cooperation with research centers, colleges, and universities to improve Americans' understanding of other societies and cultures, especially in the context of the Smithsonian's new Quadrangle complex; (2) serving as part of a national and international network of educators and other specialists to help commemorate the two hundredth anniversary of the U.S. Constitution and Bill of Rights; and (3) designing seminars and other activities in cooperation with other Smithsonian units for the five hundredth anniversary of the Columbian expedition to the New World. In addition, the Office will administer special projects of pan-institutional interest.

Office of Elementary and Secondary Education (OESE). Despite constraints on growth in FY 1988, the Office will carry on its plans to strengthen the Institution's role in addressing the crisis in pre-college education in the United States. Then in FY 1989, this effort will be increased through predominantly three areas of endeavor: more teacher training, expanded production of supplementary curriculum materials, and concerted efforts to strengthen relationships between museums and schools. Growth in readership of the publication Art to Zoo is projected but can be accommodated within existing federal resources. On the trust fund side, a number of experimental educational materials kits have been developed and more such units may be produced on various art, history, and science subjects based on Smithsonian collections and research interests. Regional workshops for teachers, production of learning materials for hospitalized children, a collaborative effort in the area of national children's radio with New York Station WNYC, activities for disabled visitors, summer intern programs for talented young people and exceptional teachers from across the country, and a program to introduce minority high school students to career opportunities at the Smithsonian are all expected to be in place and functioning well over the planning period.

National Science Resources Center (NSRC). During the next five years, one of the National Science Resources Center's priorities will be the improvement of science teaching in the nation's elementary schools. This effort was initiated with an elementary science conference in July 1986 that was attended by science museum educators, scientists, teachers, and science supervisors from throughout the nation. This conference will help the NSRC to establish a network of institutions involved in programs to improve the teaching of science in elementary schools. The NSRC will enlist the assistance of the institutions in this network to develop a database of elementary science teaching resources, disseminate information about these resources, and provide assistance to school systems that are planning elementary science program improvement efforts. The NSRC is also working with the Council of State Science Supervisors to provide an online computer information database of science teaching resources.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 8 (2)

SPECIAL PROGRAMS	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL	\$ (000)												
OFFICE OF SYMPOSIA & SEMINARS														
FEDERAL SALARY & EXPENSES	3	99	3	199	3	101	3	101	3	101	3	101	3	101
UNRESTRICTED GENERAL	2	141	2	194	2	160	2	165	2	175	2	175	2	200
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	4	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	-7	0	71	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	63	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL	5	296	5	468	5	261	5	401	5	426	5	441	5	486
OFC. OF ELEMENTARY & SECONDARY EDUCATION														
FEDERAL SALARY & EXPENSES	7	315	7	348	7	351	7	374	7	374	7	374	7	374
UNRESTRICTED GENERAL	2	171	3	187	3	207	3	217	3	226	3	235	3	245
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	-5	0	2	0	2	0	5	-0	4	0	5	0	5
-BUREAU ACTIVITY	0	83	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	28	0	24	0	29	0	75	0	83	0	83	0	83
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL	9	592	10	561	10	589	10	671	10	687	10	697	10	707
NATIONAL SCIENCE RESOURCES CENTER														
FEDERAL SALARY & EXPENSES	0	0	0	1	125	1	150	1	150	1	150	1	150	3
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	394
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL	0	0	0	1	125	1	150	1	150	1	150	1	150	3

Collection Acquisition, Scholarly Studies, Education Program and Smithsonian Awards (CARE). These trust funds support a variety of institutional activities such as purchase of special collections, workshops for minorities and the handicapped, educational conference and products, and meritorious research projects. Some increase in the handicapped, educational conference and products, and meritorious research projects. Some increase in funding is projected if the Institution's revenue generating activities continue to perform in a good fashion.

Special Exhibitions Program. Projections of trust support are based on the continued good performance of the Institution's business, auxiliary, and Associates programs. This is a special Regents' program for funding meritorious exhibit proposals from bureaus which cannot be accommodated within available federal base resources. These efforts also may be partially funded with gifts and grants from outside donors.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
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TABLE 8 (3)

SPECIAL PROGRAMS	FY 1986			FY 1987			FY 1988			FY 1989			FY 1990			FY 1991			FY 1992		
	FT EMPL	\$ (000)																			
REGENT'S FELLOWSHIPS & PUBLICATION FUNDS																					
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-SUBTOTAL	0	128	0	200	0	240	0	250	0	300	0	300	0	350	0	350	0	350	0		
CARE, RES.OPPORT., SMITHSON AWARDS																					
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-SUBTOTAL	0	0	0	3605	0	4325	0	4750	0	5300	0	5300	0	5750	0	5750	0	5750	0		
SPECIAL EXHIBITION PROGRAM																					
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-SUBTOTAL	0	0	0	2700	0	3000	0	3000	0	3000	0	3000	0	3000	0	3000	0	3000	0		

Collection Management/Inventory Program. This program, began in FY 1979 with an appropriation of \$500,000, to initiate and conduct the first complete inventory in the Institution's history. Approximately \$1,300,000 is being requested for FY 1988 within the base of participating units to continue the efforts and to process the current inventory workload. Future year projections are also contained within the unit figures. The resources will be used for reconciling of records, maintaining a stable effort in documenting incoming objects, and automating various collection record systems.

Museum Support Center (MSC). Trends portrayed for FY 1988 through FY 1992 reflect plans to meet the initial operating and equipping requirements (exclusive of utilities) for the Center. Over the period, about \$19,600,000 is planned for investing in equipment requirements. Operating funds for administration and maintenance of the MSC are projected at about \$1,000,000 annually and costs of about \$3,200,000 to support the physical transfer of collections from museums are projected over the period. Funds for operational costs of program units which are involved in the MSC are included in the appropriate base of the units. Utilities are included in the Facilities Services chapter, along with security, building engineers, and other requirements.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 8 (4)

SPECIAL PROGRAMS	FY 1986			FY 1987			FY 1988			FY 1989			FY 1990			FY 1991			FY 1992		
	FT EMPL	\$ 000)																			
COLLECTIONS MANAGEMENT/INVENTORY PROGRAM																					
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
MUSEUM SUPPORT CENTER EQUIP./OPERATIONS																					
FEDERAL SALARY & EXPENSES	44	4653	36	4426	36	4475	40	7811	40	6791	41	6812	41	2192							
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	109	0	60	0	0	0	55	0	0	0	0	0	0	0	0	0	0	0		
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-SUBTOTAL	44	4762	36	4486	36	4530	40	7811	40	6791	41	6812	41	2192							
JOHN F KENNEDY CENTER TRUSTEE GRANTS																					
FEDERAL SALARY & EXPENSES	0	333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-AUXILIARY ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-SUBTOTAL	0	333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 8 (5)

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ASSOCIATE PROGRAMS

Office of Membership and Development (OMD). The Office serves as the focus for fund-raising activities of the Institution and oversees the operations of the National and Resident Associate Programs. As the bureaux assume greater responsibility for their own fund-raising, the Office will concentrate increasingly on pan-Institutional needs.

Smithsonian Magazine. Expenditures are expected to increase substantially due to continued cost increases associated with publication. Demand should remain strong, and the Magazine will continue to operate and produce a surplus for institutional program activities.

National Associate Program (SNAP). Continued expansion is forecast for all SNAP programs throughout the period; demand for travel, lecture and seminar programs should remain strong, while new acquisition, upgrade and retention strategies will precipitate continued growth in the Contributing Membership Program.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 9 (1)

		FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
		FT EMPL (\$000)	\$ EMPL (000)												
ASSOCIATES PROGRAMS															
OFFICE OF MEMBERSHIP & DEVELOPMENT															
FEDERAL SALARY & EXPENSES		0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED GENERAL		17	922	18	959	20	947	20	987	20	1017	20	1048	20	1080
-PROGRAM & ADMINISTRATIVE		0	0	0	0	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY															
UNRESTRICTED SPECIAL PURPOSE															
-BUREAU ACTIVITY		0	10	0	13	0	13	0	0	0	0	0	0	0	0
-ALL OTHER		0	0	0	79	0	0	0	0	0	0	0	0	0	0
RESTRICTED		0	11	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS		0	0	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL		17	943	18	1051	20	960	20	987	20	1017	20	1048	20	1080
SMITHSONIAN MAGAZINE															
FEDERAL SALARY & EXPENSES		0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED GENERAL		0	0	0	0	0	0	0	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE		89	53807	90	58500	0	0	0	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY															
UNRESTRICTED SPECIAL PURPOSE															
-BUREAU ACTIVITY		0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER		0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED		0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS		0	0	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL		89	53807	90	58500	91	62425	91	66800	91	71500	91	76500	91	81800
NATIONAL ASSOCIATE PROGRAM															
FEDERAL SALARY & EXPENSES		0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED GENERAL		0	0	0	49	0	0	0	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE		38	14185	38	15485	39	16595	43	17765	47	19020	52	20345	57	21750
-AUXILIARY ACTIVITY															
UNRESTRICTED SPECIAL PURPOSE															
-BUREAU ACTIVITY		0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER		0	58	0	46	0	47	0	47	0	49	0	51	0	52
RESTRICTED		0	0	0	32	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS		0	0	0	0	0	0	0	0	0	0	0	0	0	0
-SUBTOTAL		38	14243	38	15612	39	16642	43	17812	47	19069	52	20396	57	21802

Resident Associate Program (SRAP). During FY 1987, RAP will be becoming familiar with the new offices and Education Center in the Quadrangle. In addition, computerization of the RAP offices will be taking place, along with updating the newsletter technology and format. Annual membership drives are planned to increase membership.

Air and Space Magazine. The projections are expenditure estimates, and reflect start up costs related to the first few years of operation. Circulation is expected to be around two hundred thousand in the beginning. The effort should begin to produce some small surplus about the third year of operation, with initial investment recovered in the fourth year.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 9 (2)

		FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
		FT EMPL (\$ 000)						
ASSOCIATES PRDGAMS	PRDGRAM							
FEDERAL SALARY & EXPENSES		0	0	0	0	0	0	0
UNRESTRICTED GENERAL	-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY		50	3716	50	3985	52	4250	53
UNRESTRICTED SPECIAL PURPOSE						4420	54	4600
-BUREAU ACTIVITY		0	0	0	0	0	0	0
-ALL OTHER		0	13	0	0	0	0	0
RESTRICTED		0	29	0	36	0	23	0
FEDERAL GRANTS & CDNTRACTS		0	0	0	0	0	0	0
-SUBTOTAL		50	3758	50	4021	52	4273	53
AIR & SPACE MAGAZINE								
FEDERAL SALARY & EXPENSES		0	0	0	0	0	0	0
UNRESTRICTED GENERAL	-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY		21	5182	24	7840	26	8080	26
UNRESTRICTED SPECIAL PURPOSE						8815	26	10080
-BUREAU ACTIVITY		0	-437	0	0	0	0	0
-ALL OTHER		0	0	0	0	0	0	0
RESTRICTED		0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS		0	0	0	0	0	0	0
-SUBTOTAL		21	4745	24	7840	26	8080	26
ASSOCIATES PROGRAMS - SUMMARY								
FEDERAL SALARY & EXPENSES		0	0	0	0	0	0	0
UNRESTRICTED GENERAL	-PROGRAM & ADMINISTRATIVE	17	922	18	1008	20	947	20
-AUXILIARY ACTIVITY		198	76890	202	85810	208	91350	213
UNRESTRICTED SPECIAL PURPOSE						987	20	105200
-BUREAU ACTIVITY		0	-427	0	13	0	13	218
-ALL OTHER		0	71	0	125	0	47	0
RESTRICTED		0	40	0	68	0	23	0
FEDERAL GRANTS & CDNTRACTS		0	0	0	0	0	0	0
-TOTAL		215	77496	220	87024	228	92380	233
						98834	238	106266
							244	113564
								250
								121252

Business Management Office/Product Licensing. A strengthened Product Development and Licensing program will emphasize educational toys and other products which will increase public knowledge of Smithsonian collections and activities.

Museum Shops. Expanded shops are planned in the National Museum of Natural History and the National Air and Space Museum to improve customer services and to enhance merchandise presentation. The museum shop in the National Museum of African Art will move to the new Quadrangle facility. Overall, the museum shops will continue to incorporate technological advances in retail management and aim for increasing professionalism in operations.

Mail Order Division. The Mail Order Division will continue to publish three main catalogues each year: Fall, Spring, and Summer. These may be supplemented by specialized catalogues designed to appeal to particular markets, and by advertising products in selected magazines.

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 10 (1)

BUSINESS MANAGEMENT	FY 1986		FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT EMPL	\$ EMPL (000)												
BUSINESS MANAGEMENT OFFICE														
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	8	732	8	735	8	755	8	820	8	850	8	880	8	910
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE														
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
-SUBTOTAL	8	732	8	735	8	755	8	820	8	850	8	880	8	910
MUSEUM SHOPS														
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	215	17230	220	19015	228	20050	237	21200	246	22100	254	23000	260	24100
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
-SUBTOTAL	215	17230	220	19015	228	20050	237	21200	246	22100	254	23000	260	24100
MAIL ORDER DIVISION														
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED GENERAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	75	15722	79	17115	85	18715	90	19900	94	211200	99	22600	102	24100
-AUXILIARY ACTIVITY														
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS														
-SUBTOTAL	75	15722	79	17115	85	18715	90	19900	94	211200	99	22600	102	24100

Concessions. Construction of a restaurant addition to the National Air and Space Museum to meet public needs is planned for completion by early FY 1989; renovation of the restaurant facilities in the American History and Natural History buildings is also planned. Other eating facilities will also be upgraded. New food services contracts have been negotiated and are being implemented. They provide for an increased return to the Institution as well as an emphasis on food quality and service.

Parking. As a result of recent changes, the public parking program was terminated.

TABLE 10 (2)

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

BUSINESS MANAGEMENT	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
	FT EMPL (\$000)						
CONCESSIONS							
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0
UNRESTRICTED GENERAL	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY	1	370	1	245	1	255	1
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	217	0	228	0
RESTRICTED	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0
-SUBTOTAL	1	370	1	462	1	483	1
PARKING OPERATIONS							
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0
UNRESTRICTED GENERAL	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY	16	571	16	220	0	0	0
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	0	0
-BUREAU ACTIVITY	0	0	0	0	0	0	0
-ALL OTHER	0	0	0	0	0	0	0
RESTRICTED	0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0
-SUBTOTAL	16	571	16	220	0	0	0
BUSINESS MANAGEMENT - SUMMARY							
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0
UNRESTRICTED GENERAL	0	0	0	0	0	0	0
-PROGRAM & ADMINISTRATIVE	0	0	0	0	0	0	0
-AUXILIARY ACTIVITY	315	34625	324	37330	322	39775	336
UNRESTRICTED SPECIAL PURPOSE	0	0	0	0	0	44030	349
-BUREAU ACTIVITY	0	0	0	0	0	0	46320
-ALL OTHER	0	0	0	217	0	228	0
RESTRICTED	0	0	0	0	0	0	322
FEDERAL GRANTS & CONTRACTS	0	0	0	0	0	0	0
-TOTAL	315	34625	324	37547	322	40003	336

Central Management Offices. The planning period will see continued examination of Institutional objectives, priorities and resource allocations. Close oversight will be given to the strengthening of research and scholarship. Administrative and support functions will be monitored to assure their responsiveness to organizational needs. Continued strong attention will be given to the legal oversight of and counseling on Smithsonian programs. Financial management and internal control systems will be strengthened. Legislative initiatives will be developed and presented and effective communications maintained with the Office of Management and Budget, Congress and other organizations. Overall resources expected in FY 1992 for central administration amount to about \$4,200,000 and 56 staff reflecting minimal growth.

Specialized Administrative and Technical Office. The Institution's planning function will be integrated with the budget process and additional steps will be taken to strengthen participation of all levels of management in decision-making activity. Automatic data processing will be applied more comprehensively in administrative, research and collections management work. Of particular note will be operation of a new personnel/payroll system in FY 1988 using the Department of Agriculture's National Finance Center, the phased implementation of new accounting systems and the development of systems to provide information for management and research purposes on the national collections. Legislated changes to the Civil Service retirement system will be implemented and trust employee benefits programs will be studied and desirable changes put into effect. Steps will be taken to improve the orientation of new employees and to inform all employees of important personnel developments. Statistical analyses and reporting of equal opportunity data will become more available for planning and management purposes and further affirmative action training will be given to managers and supervisors. Employment opportunities and program accessibility for disabled persons will be stressed. Studies will be undertaken on photographic preservation techniques and the inventory of photographs will be continued using video disc and other modern technology. Continued assistance will be given to the Institution's professional research staff to locate and obtain grant and contract support. Contracting procedures, including more analysis of negotiated procurements, will be strengthened and the property management system will rely more heavily on automated procedures. A phased program of contract service reviews will be continued and internal control problems will be identified and corrections implemented. Travel assistance will be provided to employees and others affiliated with Smithsonian programs. Special events will be planned and managed as adjuncts to exhibition openings and other activities. Resources expected in FY 1992 for specialized administrative and technical services will amount to about \$27,000,000 and 463 staff with increases directed primarily at personnel, financial and procurement management and the replacement and upgrading of duplicating and other equipment.

Facilities Offices. Capital improvement, safety, security, health and architectural history programs and projects will be strengthened and monitored for effectiveness. During the planning period the Quadrangle will be completed and opened to the public, construction should be finished on the Air and Space Museum terrace restaurant by fall 1988 and work will be completed on the Tupper research and conference building at Tropical Research Institute. Care of existing facilities will continue as one of the highest priorities with additional resources sought to augment existing preventive maintenance and repair programs. The emphasis in the security program will be on the completion of the proprietary alarm system and the companion effort to modernize alarms and other security installation. Guard shortages will be alleviated as the financial situation permits. Major emphasis will be placed on improving the Institution's capabilities in environmental management, including the identification and handling of hazardous materials, and other safety matters. Greater attention will be given to space management and the forecasting of requirements. The program of building condition surveys and architectural histories will be accelerated. Automation will be extended throughout the facilities offices. Budget increases are required primarily for the safety and environmental management program, space planning and automation bringing total expected resources in FY 1992 to about \$73,000,000 and 1,389 staff.

SMITHSONIAN INSTITUTION
APPENDIX OF OPERATING FUNDS
FY FY 1986 AND PROJECTED THROUGH FY 1992

TABLE 11 (1)

		FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992
		FT EMPL (000)	\$ EMPL (000)	FT EMPL (000)	\$ EMPL (000)	FT EMPL (000)	\$ EMPL (000)	FT EMPL (000)
CENTRAL MANAGEMENT OFFICES								
CENTRAL MANAGEMENT OFFICES-SUMMARY								
FEDERAL SALARY & EXPENSES		33	1653	34	1726	36	1938	38
UNRESTRICTED GENERAL		18	1153	18	1978	18	1804	18
-PROGRAM & ADMINISTRATIVE		0	0	0	0	0	0	0
-AUXILIARY ACTIVITY		0	0	0	0	0	0	0
UNRESTRICTED SPECIAL PURPOSE		0	0	0	0	0	0	0
-BUREAU ACTIVITY		0	-638	0	12	0	12	0
-ALL OTHER		0	121	0	99	0	99	0
RESTRICTED		0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS		0	0	0	0	0	0	0
-TOTAL		51	2289	52	3815	54	3853	56
SPECIALIZED ADMIN & TECH OFFICES-SUMMARY								
FEDERAL SALARY & EXPENSES		215	10939	236	11767	247	13546	261
UNRESTRICTED GENERAL		168	5886	176	9037	176	9702	176
-PROGRAM & ADMINISTRATIVE		0	0	0	0	0	0	0
-AUXILIARY ACTIVITY		0	0	0	0	0	0	0
UNRESTRICTED SPECIAL PURPOSE		16	1265	16	1258	16	1222	16
-BUREAU ACTIVITY		4	1936	4	1069	0	412	0
-ALL OTHER		0	13	0	54	0	0	0
RESTRICTED		0	2	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS		0	0	0	0	0	0	0
-TOTAL		403	20041	432	23185	439	24882	453
FACILITIES OFFICES-SUMMARY								
FEDERAL SALARY & EXPENSES		1081	49288	1244	55666	1276	59185	1319
UNRESTRICTED GENERAL		16	2060	16	1919	16	2011	16
-PROGRAM & ADMINISTRATIVE		0	0	0	0	0	0	0
-AUXILIARY ACTIVITY		0	0	0	0	0	0	0
UNRESTRICTED SPECIAL PURPOSE		5	199	6	40	6	44	6
-BUREAU ACTIVITY		2	-51	3	187	3	195	3
-ALL OTHER		0	4	0	7	0	7	0
RESTRICTED		0	0	0	0	0	0	0
FEDERAL GRANTS & CONTRACTS		0	0	0	0	0	0	0
-TOTAL		1104	51500	1269	57819	1301	61442	1344

TABLE 11 (2)

SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1986 AND PROJECTED THROUGH FY 1992

APPENDIX II

COLLECTIONS RELATED RESEARCH

The results of curatorial research on the collections in the Freer Gallery of Art are most visible in exhibitions. However, additional research is made available to the public through collection research records, free gallery leaflets, public lectures and in published papers, articles and catalogues. Specific areas of current research in Japanese art include an continuous work in the areas of Japanese painting from the Heian to Edo periods and calligraphy and prints. In addition research for a series of catalogues on Asian ceramics is being done in the areas of selected Japanese ceramics, the relationship between Korean and Japanese ceramics, ceramics from Kyushu and western Honshu in Japan, Chinese trade ceramics and Southeast Asian ceramics. A series of four volumes on the Freer Ukiyo-e collection is under way, with the first volume to be published in 1988.

In the field of Chinese art, research continues on Chinese calligraphy and paintings of the Sung, Yuan, Ming and Ch'ing dynasties. Also, an exhibition tentatively scheduled to open in the Sackler Gallery in 1991 is being prepared on Zhang Da Chien (1898-1983). Research on Chinese lacquers will result in a published article.

In 1973 the Freer published a catalogue, Chinese Figure Painting. This is the only scholarly study in this field, and the catalogue has been out of print for eight years. Revision of this original text for publication in 1987 has necessitated a comprehensive review of all literature on that subject during the past twelve years.

In the field of Indian art, research during the last year focused on early 17th-century Mughal painting, in particular Rajput painting of Rajasthan. Other current research in the area of Indian art includes the study of Mughal gardens and garden architecture of the 16th to 17th centuries.

In the area of Near Eastern art, research is being conducted for a catalogue and exhibition of the Vever collection of Persian painting and related arts of the book. Ongoing research concerning 15th-century central Asian and Iranian art and architecture is being conducted in preparation for a major exhibition in 1989 in the Sackler Gallery.

The Technical Laboratory of the Freer Gallery is renowned for its research activities, in addition to ongoing conservation and restoration of objects in the Freer and Sackler collections. Research includes: casting methods, corrosion, and lead-isotope ratios in Chinese bronzes; colors of the copper-tin-lead alloy system; and Oriental painting materials, including pigments and inks. Continuing research includes lead-isotope ratios in pigments and bronzes from Asia, studies on Chinese ink samples, identification of early Korean painting materials, and deterioration mechanism on East Asian paintings.

Research is the fundamental focus of the Arthur M. Sackler Gallery, providing the basis for exhibitions, publications and collections acquisitions. The research program involves both visiting scholars as well as the curatorial staff. Considerable research has been necessary to prepare explanatory labels for the inaugural exhibition of the 1000 objects donated by Dr. Sackler to the Smithsonian, as well as for the preparation of the collection catalogue (The Arts of Asia in the Arthur M. Sackler Gallery). A full catalogue of the Near Eastern and Indian works in the Vever Collection, recently purchased by the Gallery, is also underway, with an anticipated publication date (coinciding with an exhibition) in 1988. Additional future exhibitions at the Gallery will also be based on research already begun on the Turko-Mongol conqueror Timur, Mughal gardens, and the Chinese painter Chang Ta-ch'ien, among other topics.

Additionally, it is anticipated that the Asian art history journal *Artibus Asiae*, now totally funded by the Sackler Foundation, will be produced by the Gallery (although its contents will be independent of the Sackler Gallery programs and collections). It is also planned, however, to publish a journal of scholarly research devoted to Sackler Gallery exhibitions and collections. These two journals would make the Gallery a major center for research publications on Asian art history. The Gallery's publications program will also include a quarterly bulletin intended for the general public. The bulletin will have color plates and informative text relating to the permanent collection, recent acquisitions and special exhibitions. Free leaflets will be provided in the exhibition galleries.

At the National Museum of American Art, the recently-donated Sara Roby Foundation Collection of more than three hundred and seventy art works from the last half-century will be published in a scholarly volume, to appear in January 1987; selections from the collection will be exhibited from January-July of that year. Other collections with publications are traveling throughout the country in order to make known the Museum's collections: "Art and Design, The Container Corporation of America's Collection;" "Sharing Traditions;" "Five Black Artists in Nineteenth-Century America;" and "Treasures from the National Museum of American Art" which will return to Washington in May 1987. Each of these projects involves significant curatorial research which is included in the accompanying publication as documentation and interpretation; in addition to resident staff, guest specialists have contributed to the publications.

In a major new initiative, the Museum is beginning a journal to be called *Smithsonian Studies in American Art*. Oxford University Press has undertaken to publish and distribute the journal; the first issue will appear in spring 1987. The journal is served by an advisory board of external scholars who will also serve as reviewers. Articles on American art and culture are invited from scholars across the nation and beyond; contributions by Smithsonian scholars and articles about the national collections are encouraged. The early issues will include articles by staff curators on the Thomas Hart Benton mural Achelous and Hercules and the Thomas Hotchkiss painting Torre di Schiavi, both in the NMAA collections.

Other collections-related projects in the Museum include a study of Paul Manship, to result in a monograph and SITES exhibition of that artist; a project on Albert Pinkham Ryder, which involves a technical study in collaboration with the Conservation Analytical Laboratory. Examples of more traditional art historical research includes preparations for a Joseph Cornell catalogue raisonne; a traveling exhibition and related didactic materials on Post Office mural paintings from 1935-43, and American miniature painting. During the past year the Museum printed a revised edition of its catalogue on Romaine Brooks, focussing on the extensive collection of her works at the NMAA.

Among the current research programs at the National Portrait Gallery are a study of American portrait painting from 1700 to 1776; a study of the history of radio and television broadcasting and portraits of the major figures in this area; research into portraits of significant American jurists from Colonial times to the present; and a study of portraits and biographies of the members of the first United States Congress. The Gallery is also identifying and studying the portraits of American painter Henry Inman; the American sitters of the Swedish painter Anders Zorn, the relationship of the portraits of Andrew Jackson to his evolving national image, and the history of Time, Inc. is patronage of portrait artists. All of these are directed towards major exhibitions scheduled for the NPG in the coming two or three years; each exhibition will be accompanied by a major publication. The research projects listed above are involved with objects from the NPG collections, in some cases combined with loans from other public and private collections. Research primarily focussed on publication is going forward on the life of the photographer Mathew Brady; the career of painter James Earl; the life and work of Charles Fevret de Saint-Memin; and the papers of Charles Willson Peale and his family. Volume 1 of the Peale Papers has already been published by the Yale University Press; volume 2 (in two parts) is in the press, and volume 3 of this 8- volume set is in the final editing stages. The book on St. Memin is being edited for publication by the SI Press, with a grant from the Barra Foundation.

Since 1974, the Hirshhorn Museum and Sculpture Garden through it's Department of Painting and Sculpture has developed a program of intensive research on its collection of modern and contemporary art. The primary documentation on the collection, together with interpretive research, is maintained in the Collection Archive, which serves as the central information file on the permanent collection. Among the major research projects undertaken within the past ten years is an international biographical survey of living artists represented in the permanent collection. The curators in the Department of Painting and Sculpture have also devoted intensive research to the history of casting of modern sculpture, with particular emphasis on the problems of connoisseurship, foundry marks, and editions. With the bequest of Joseph H. Hirshhorn's personal collection in 1981, the curatorial staff has undertaken a massive effort to research and catalog the more than five thousand works bequeathed to the museum.

Periodically, collections-based research has focused on topics that result in exhibitions. An investigation of relief sculpture resulted in 1986 in an exhibition selected from the permanent collection. Plans are

now underway for an iconographic research project on images of bridges in modern art, to go on view in 1987. Finally, one project which began as a study of the museum's holding by the Swiss sculptor Alberto Giacometti will culminate in a major retrospective loan exhibition in 1988.

At the National Museum of African Art, ongoing research on the extensive Lamb Textile Collection of fifteen hundred examples (jointly acquired with the National Museum of Natural History) as well as textiles in the NMAfA permanent collection was furthered during 1985-86 by a Regents Fellow, Curator Emeritus of the Basel Museum, Dr. Renee Boser-Sarivaxevanis. Preparation for an exhibition and catalogue of selected textiles from these holdings is now nearing completion for the opening of the Museum on the Mall. Also for the Museum's re-opening in 1987, there are in preparation two other exhibitions based on NMAfA collections both of which will involve research by curatorial staff. One is devoted to Benin Bronzes which will include the works recently transferred from the Hirshhorn Museum and Sculpture Garden and will be accompanied by a catalogue discussing the history, use and iconography of these works of art. The second research exhibition is a large number of recent acquisitions from the Museum's permanent collection of sculpture.

Many NMAfA exhibitions and attendant publications include both loan materials as well as works from the collection. Curatorial research is directly related to such exhibitions and publications. Examples include a recent exhibition of Bamana figurative sculpture as well as projected exhibitions in post-1987 of Bamana masks and marionettes, African pottery and African master carvers.

The Museum's Photographic Archives, which includes over seventy thousand black and white photographs and nearly one hundred and fifty thousand color slides, is the center for ongoing research into the context of African arts. Many of the images are of historic importance; others capture the arts in their traditional settings. These images, important to researchers dealing with meaning and context studies, are also examined for the mounting of photographic exhibitions and catalogue publications, such as the photographs of southern Africa by Constance Stuart Larrabee.

The National Air and Space Museum learns a great deal about an airplane and its operational history during restoration. An example is the recently restored World War I SPAD XIII. The wings and fuselage of the aircraft were riddled with bullet holes, all supposedly sustained during combat. However, the restorers discovered that the bullet holes in the wings could not have been made by enemy fire. These bullet holes were actually placed in the wings by Americans in Europe who were preparing the airplane to be sent to the U.S. Further research led to the discovery that the wings now on the airplane had been attached only for two missions and had not been on the aircraft during combat. The original wings had been scrapped because they had received so many bullet holes. This and other information learned during restoration will be included in a book on the SPAD XIII.

The Museum recently received a large collection of material on aerial photography that had been in the possession of the famous photographer Edward Steichen. Museum researchers discovered that Steichen himself had

more involvement with aerial reconnaissance operations in World War I than has been recorded in previous Steichen biographies. This information led to further research into Steichen's position as Chief, Photographic Section, U.S. Air Service, American Expeditionary Force, which will culminate in a book to be published by the Smithsonian Institution Press.

At the Museum's Center for Earth and Planetary Studies, the collection of more than four hundred thousand planetary images is the core material for research on planetary surfaces. Using manned and unmanned spacecraft photographs, geologists at the Center are studying the origin of surface features, and mapping the distribution of certain types of land forms on the planets and their moons. The collection of Space Shuttle photographs is likewise used for analyses of Earth's surface features, particularly in arid lands.

At the Cooper-Hewitt with more than one hundred sixty-seven thousand items in its permanent collections and just three full curators and one assistant curator to care for them, research on the permanent collections is often generated -- and limited -- by the Museum's outstanding and varied schedule of special, thematic exhibitions. It is usually an exhibition which provides the Museum's opportunity to exhibit an object or group of objects and to publish information developed by curatorial research. Among the special exhibitions now planned for the immediate future which will reflect the results of such research are ones devoted to fans, locks and keys, and printed fabrics. Longer range planning involves collection materials relevant to designs and objects generated by the universal human experience of death, marine life forms in the history of art and design, and domestic cutlery and tablewares.

Additionally, research continues as time permits on the structures, patterns, uses and manufacture of lace, on draw-loom woven fabrics from the fourth to the twentieth century, and repeat as a design determinant and technical aspect of patterned textile manufacture. During FY 1986, the Curator of Textiles offered a special course in textile structures analysis for an invited group of professional colleagues from across the country. Cooper-Hewitt collection materials provided the working materials for the course, which we expect will be re-offered bi-annually as a service to the field. In the Drawings and Prints Department, new collections-based research included investigations of our Antonio Gentile (1531-1609) drawing of a silver crucifix for the high altar of St. Peter's Basilica in Rome, a study of one hundred and ten drawings by Carlo Marchionni (1702-1786), and analysis of a group of one hundred and twenty five European and American interior design drawings of the sixteenth to twentieth century.

Collection-based research also results from the interests and activities of both faculty and students in the Museum's graduate program in the history of decorative arts. Also conservators are active researchers at the Cooper-Hewitt. In FY 1986, for instance, work continued on the analysis of material components and functions of metallic fibres in textiles between the fifteenth and nineteenth centuries and the history and conservation problems of transparent papers before 1850.

The more than eighty million specimens of animals, plants, fossils, rocks and minerals, and artifacts of human culture housed by the Museum of Natural History/Museum of Man provide a focal point for the basic research of a resident staff of more than two hundred scientists from the Smithsonian and other affiliated government agencies. Numerous scientists all over the world also use these collections, either as visitors or borrowers. Almost four hundred thousand specimens and objects were loaned in FY 1986.

Ongoing collection-based research studies include:

A Smithsonian-National Geographic Society search for the geological remains of the ancient Strait of Gibraltar, a passage believed to have been destroyed more than five million years ago by the collision of the European and African continental plates. The project is providing historical evidence for the formation of the mountain systems of southern Spain and northwest Africa, and has yielded a vast collection of micro-fossils valuable for scientific studies and mineral, petroleum, and water exploration.

Concern over the high prevalence of cancer in fish living in chemically contaminated bodies of water, and the potential human health hazard this poses, has recently focused attention on the Museum's Registry of Tumors in Lower Animals. The Registry, a depository for a collection of more than five thousand diseased specimens of fish, shellfish and other animals from the U.S. and forty other countries, is the only clearing house in the world for information on the phenomena of cancer in fish and other vertebrate and invertebrate cold blooded animals.

Information on pathological conditions of special significance in the Museum's incomparable collection of carefully catalogued skulls and bones, was recently computerized under a National Institutes of Health-funded study focusing on the origin of disease. It is expected to provide some answers to questions concerning human adaption and how different disease conditions reflect both biological and cultural components of the past. The skeletal collections, containing more than thirty-five thousand specimens, represents nearly every geographic area of the world, some dating back five thousand years to the early development of cities. It includes the Terry collection of modern skeletons that has been invaluable in the creation of a system that has successfully assisted in identifying children missing for a number of years.

Collections of wild Loggerhead sea turtles stranded on U.S. Atlantic coastal beaches are yielding demographic data to a Museum research team that are increasing our understanding of the biology, behavior, and ecology of dwindling Atlantic sea turtle populations, and hence their conservation and management.

Museum volcanologists continue to collect the ongoing eruptive products of the Mount St. Helens Volcano, which exploded catastrophically in May of 1980. Studying the changing chemistry and gas content of successive lavas helps scientists understand what is driving the volcano's continuing activity. Eventually it may be possible to predict phases of

eruptions of Mount St. Helens and other volcanoes in the Cascade Mountains and elsewhere in the world.

Unknown sea life discovered by divers in previously unexplored underwater marine caves in the Bahamas, Bermuda and the Turks and Caicos Islands is being intensively studied by Museum scientists. The diversity of these valuable collections includes, for the crustaceans alone, a new class, a new order, two new families, three new genera, and twenty new species. For scientists these animals and their environment provide a window on the past. Shut off for millions of years from the pressures of natural selection, in a stable environment similar to the deepest parts of the world's oceans, they reproduce more slowly than other shallow marine animals, live much longer lives, and have lower metabolic rates. Research by Museum scientists and colleagues at several universities has made possible classification of these animals and led to new hypotheses on the distribution of animals via the action of plate tectonics and the use of cryptic habitats on the sea floor.

The Museum is one of six sponsoring organizations of a long-term multinational effort to describe the little known plant life of Guyana, Suriname, and French Guiana, an area of tropical America that has received little botanical attention in the past. Most of the Guianas is covered by tropical forests, and a knowledge of indigenous plant resources is economically important to the development plans of the three countries involved, and crucial to the assurance of the orderly, non-destructive use of a vast natural resource. This long term project, involving more than a dozen Museum botanists, is being significantly aided by existing Museum collections, which are serving as references to past exploration.

A vast compilation of taxonomic and biological data on wasps, bees, and related insects in America north of Mexico has been entered into an electronic database by Museum entomologists, accomplishing a revolutionary advance in the field of systematic cataloguing. The data bank for some eighteen hundred species of Hymenoptera contains a wealth of biological information that makes the database valuable to a wide variety of scientists: for example, parasite-host records for those interested in biological control and bee-plant associations of value to pollination ecologists and botanists. Data on Mexican wasps and bees will be added to the data bank in the future to enhance its usefulness.

At the National Museum of American History catalogue projects are underway on the Museum's African-American holdings, labor history collections, and, jointly with the National Museum of Natural History, on the ethnographic and ceremonial Judaica collections. Labor history collections also are the focus of an analysis of labor iconography.

The Museum's domestic and community life collections are being used in a study of the visual culture of "civilized morality" in 19th century America. Furniture and trade catalogue collections were used in a study of the social and cultural meaning of appearance in 19th century furniture. Photographic collections are being studied for a history of the photographic darkroom.

Continuing long-term projects utilize the Museum's collections of political iconography to pursue a comparative study of the meaning of the suffragist movement and of the women's movement of the 1970s; the costume collections continue to be used to define and compare gender role ideals in American history.

The artifact collections of the Department of the History of Science and Technology continue to support a wide variety of research projects. A sampling of recent collections-related research includes the use of technology collections to document patterns of economic, social, and technical change. A forthcoming article on the pin-making machine, for example, interprets the artifact as a prototype of mass production machinery, and a study of the Blanchard lathe, one of the first self-acting machines, traces the early steps of factory automation. A survey of 19th century cotton gins in our collections and elsewhere uses them as a basis for reinterpretation of Southern mechanical skills and inventiveness. A growing collection of documentary photographs will be featured in an exhibition and catalog dealing with the cultures of rural people.

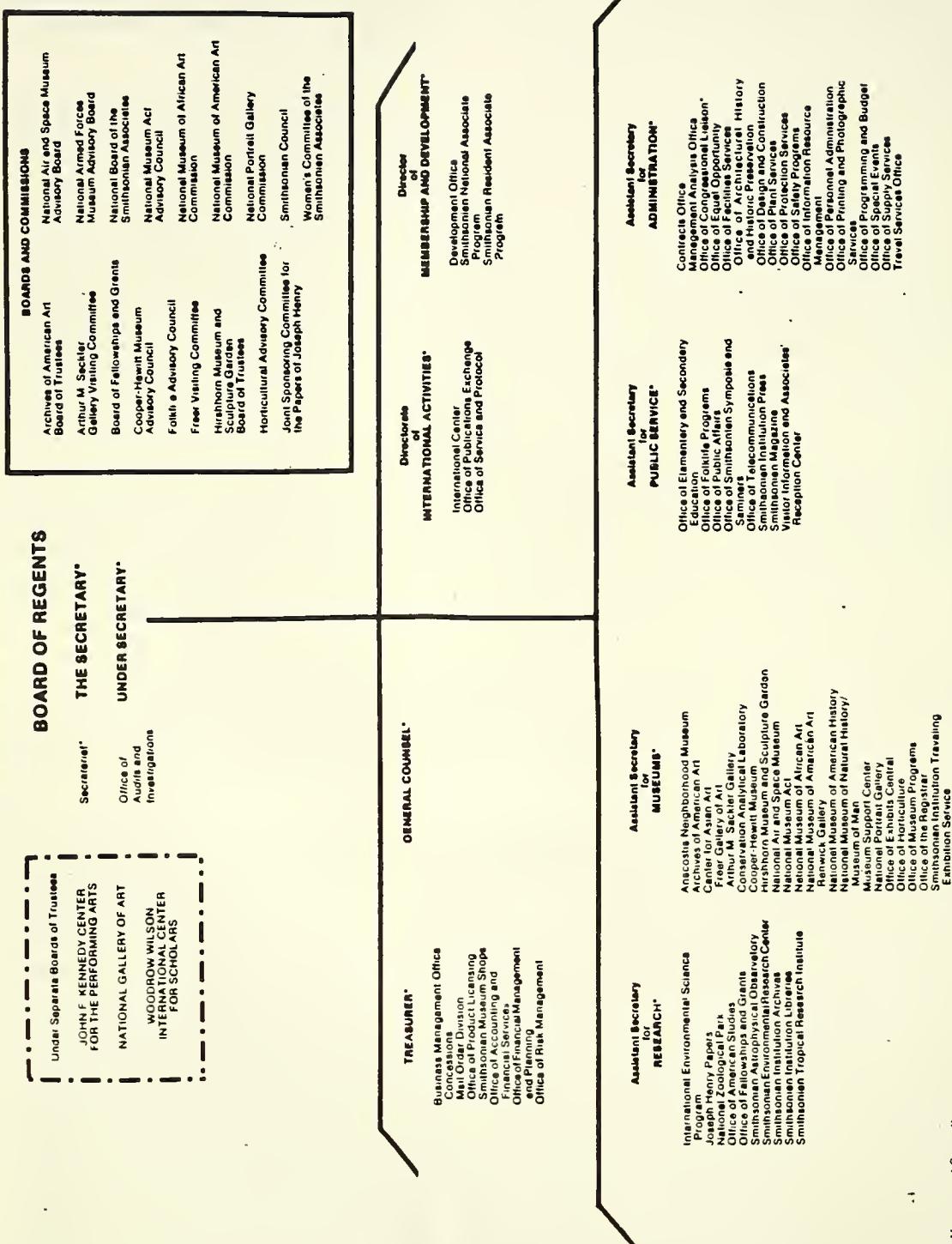
In the area of historical archaeology, the Division of Transportation has undertaken a basic survey of the U.S.S. Indiana artifacts, including the earliest propeller driven ship's machinery ever recovered. Ongoing studies of the John Bull Locomotive view the artifact in the context of technology transfer and adaptation. And studies of our railroad photographic archives will examine the popular image of the railroad in American culture.

The Department's extensive collection of scientific instruments provide evidence for numerous studies. For example, ongoing research on Philadelphia-made instruments sheds light on the community of instrument makers, their social status and their relations with the growing scientific community.

Research at the Conservation Analytical Laboratory (CAL) is to a large extent collection based. The directions in conservation related research, both with regard to studies in conservation science and the development of treatment technology, are generally derived from actual problems encountered by conservators in the care of objects from the collections of the various museums in the Smithsonian. As a result CAL studies are often performed with objects as the actual study material. For example, an analytical and technological study of archeological Hopi ceramics, aimed at evaluation of cultural boundary maintenance between the different Hopi peoples during the period of great migrations, utilizes among others the collection of the National Museum of Natural History. CAL's program of lead isotope analysis, in collaboration with the National Bureau of Standards, has been focused on provenience studies of Chinese bronzes from the Sackler Collection. Works by the American artists, Thomas W. Dewing and Albert P. Ryder, from the collections of the National Museum of American Art, are the subjects of technical studies by several means, including neutron activation autoradiography, to obtain information on the personal techniques and the compositional processes by which the artists created these works.

Collections from museums outside the Smithsonian are often also involved in CAL research projects, such as studies on the provenience and technology of ceramics from the Far and Middle East, the technology of archaeological plasters from the Near East, bronze mirrors from India, and 17th and 18th century music wire. Many projects carried out, also, by CAL's post doctoral fellows in materials analysis.

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